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A.M.A. CONVENTION • KANSAS CITY, MO. • MAY 11-15, 1936

More diseases can be traced to disturbance of the Gastro-intestinal Tract than probably to any other cause. The medical profession, therefore, enthusiastically welcomed three Saunders Books that deal clinically with the Gastro-intestinal Tract and which were written to meet the specific needs of the Family Physician. Two of these—"Medical Treatment of Gallbladder Disease" and "Diseases of the Colon, Rectum and Anus"—are briefly described on *page 3.* The third book is . . .

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VOLKMANN'S ISCHEMIC CONTRACTURE

ASSOCIATED WITH SUPRACONDYLAR FRACTURE OF HUMERUS

HENRY W. MEYERDING, M.D.

ROCHESTER, MINN.

The flexion deformity of the wrist and fingers resulting from contraction and fibrosis of the flexor muscles of the forearm, which is known as Volkmann's ischemic contracture, is of especial interest (fig. 1). Affecting children and occurring as a complication of fractures of the lower end of the humerus, it results in permanent partial or total disability when once it is established despite the most expert surgical and physical treatment.

It is of interest to note that in the articles and reports of cases published since the original report of Volkmann in 1869 no author has claimed a certain method of cure. While there has been some difference of opinion, in the past, as to the factors involved in the production of the contracture, we at the Mayo Clinic believe that the etiology is now readily understood and that the means of prevention are available. To those who will carefully observe the symptoms and take proper measures to control circulation in the extremity immediately following injury, Volkmann's contracture will not present the embarrassing medicolegal question as to responsibility.

The extensiveness of the primary injury and the time interval between trauma and consultation are of the utmost importance, irrespective of the treatment given, and these are the factors which fix responsibility and which should be appreciated and emphasized when the physician is charged in the courts of law with negligence and malpractice. Patients with these unsightly extremities make an unusual appeal to the jury, yet the fact that Volkmann's ischemic contracture can occur even when no treatment has been given must be emphasized and understood by the public and the profession.

There should be no misunderstanding of the merits of conservative methods of stretching, as advocated by the late Sir Robert Jones, or of operative treatment, for surgery is resorted to only when conscientious and prolonged treatment has failed to correct the deformity. It is only through the use of these conservative stretching and surgical methods that benefit will be obtained in cases of Volkmann's contracture of long standing. Without physical therapy little can be accomplished. In every case of ischemic contracture, whether operation is performed or not, it is my opinion that physical therapy is the greatest aid in recovery of a useful extremity.

From the Section on Orthopedic Surgery, the Mayo Clinic.

Read before the joint meeting of the American Congress of Physical Therapy and the Jackson County Medical Society, Kansas City, Mo., Sept. 10, 1935.

At the Mayo Clinic a series of 162 cases of Volkmann's ischemic contracture have been encountered, and I have selected for the present study sixty-nine cases in which supracondylar fracture was present (table 1). The histories and physical and laboratory examinations were reviewed and an attempt was made to judge the benefits of the treatment given, and, most important, of those measures which, if instituted in time, might have resulted in prevention. I was impressed with the variation in degree of damage done (table 2), type of treatment or lack of it given (table 3), and difficulties encountered in obtaining results. Most of our patients came long distances, long after disability had occurred (table 4), and were unable to remain a satisfactory period of time. In spite of these handicaps the patients were encouraged and what was considered the maximal treatment was rendered in the time available. The family physician and relatives were given every assistance in the after-care, with encouraging results.

Every experienced physician knows that muscles which are seriously involved in cases of Volkmann's contracture mean permanent disability and that the best the profession has to offer is improvement in function and appearance. We claim no certain cure; we present our experience and the results obtained in cases of fracture of the lower end of the humerus complicated by ischemic contracture and the means of prevention and treatment.

The factors leading in cases of fracture of the lower end of the humerus to the production of Volkmann's ischemic contracture are as follows: The force which breaks off the lower fragment carries the condyles backward and strips the periosteum away from the posterior surface of the proximal fragment, this space promptly filling with blood. The lower end of the proximal fragment is carried forward and downward, piercing the periosteum and forcing its way against the soft tissues; blood vessels and nerves become compressed and hemorrhage infiltrates the antecubital spaces and, if severe, as from a ruptured artery, forces its way into the forearm. Nerves may be severed and paralysis may be noted before there has been time for an ischemic condition to develop. Transportation or undue roughness or lack of skill in handling the fractured extremity may aggravate the damage and increase intrinsic pressure. Muscle pull holds the overlapping bones in malposition, further impairing circulation in the forearm.

The extent of injury up to this time depends on the type of fracture and local damage to soft tissues. Left alone, the result may be malunion, with a fairly good functional result in the forearm and some limitation of motion in the elbow. Should arterial hemorrhage be unchecked, venous flow is interfered with by the development of a subfascial hematoma; distention, tenderness and induration of the antecubital space, and pain, cyanosis and loss of pulse and numbness take place.

Infiltration into the forearm is confined by the interosseous membrane, radius, ulna and the inelastic aponeurosis of the large flexor muscles. The arm then becomes cold and blue or purplish, the pulse is absent, blebs appear, intense pain occurs, and, unless intrinsic pressure is relieved, contracture takes place. In a matter of hours, not days or weeks, the damage to the muscle fibers has been done; owing to unavoidable circumstances, the patient may not have seen a physician or had any treatment whatever. The patient expects the fracture to be reduced, and the inexperienced practitioner who is confronted with induration of the antecubital space may attempt reduction and fixation in flexion, using bandages, splints or casts; if he is wise, he will devote his efforts to relieving the intrinsic pressure and will disregard the fracture. In such cases he would do well to call some one in consultation lest he receive blame, though wholly undeserved, for having produced the disability through his treatment.

Uncomplicated supracondylar fractures treated immediately by accurate reduction and retention in flexion give excellent results. Repeated observations of the color of the hand and of pulsations should be made lest an unrecognized hemorrhage appear and impair circulation. The position of the fragments should be checked to make sure displacement has not occurred; anteroposterior and lateral roentgenograms should be taken immediately after reduction and at various intervals thereafter.

In a previous paper I pointed out that malunion occurred in 40 per cent of cases of fracture associated with ischemic contracture, and I believe that the displacement occurred in many instances during attempts at relieving pain and swelling by releasing the retentive dressing (fig. 2 *a* and *b*). These cases included those in which the fractures had been reduced and the patients had apparently left the offices of their physicians in comfort, circulation having been satisfactory, but in which on the patient's next visit an unlooked for contracture was discovered. It is unfortunate that the general practitioner, who must of necessity travel considerable distances daily, is unable to see his patients as often as he would like and is forced to depend on unskilled aid in protecting himself. Ideal hospital and nursing care are, however, not always available. When patients are seen at a somewhat later stage, swelling may have become marked and reduction is attended with difficulty. Holding the fracture in acute flexion cuts off circulation and the recumbent position should be insisted on and the arm should be suspended for a few days until reduction can more safely be accomplished. An airplane splint is excellent for ambulatory patients. Why so many patients should be permitted to be up and about with arms swollen and cyanotic and hanging at their sides is difficult to understand.

A third group of patients is seen after the antecubital space is distended and tender and the pulse is faint; the skin has then become bluish red and pain is unbearable, opiates having often been freely administered. If splints, bandages, adhesive tape or casts have been applied, they should be removed and the arm should be elevated on pillows, with the elbow extended beyond a right angle. Warm, but not hot, moist dressings should then be applied. If within the next hour the swelling increases and the pulse is absent, the relatives must be warned as to the seriousness of the situation and preparation should be made to operate. Intrinsic pressure has in such cases become sufficient to block the venous flow, but the stronger walled artery still permits a little blood to be forced into the arm. In the cases of older patients with impaired blood vessels and feeble hearts gangrene is possible, but in children the stage is set for ischemic contracture.

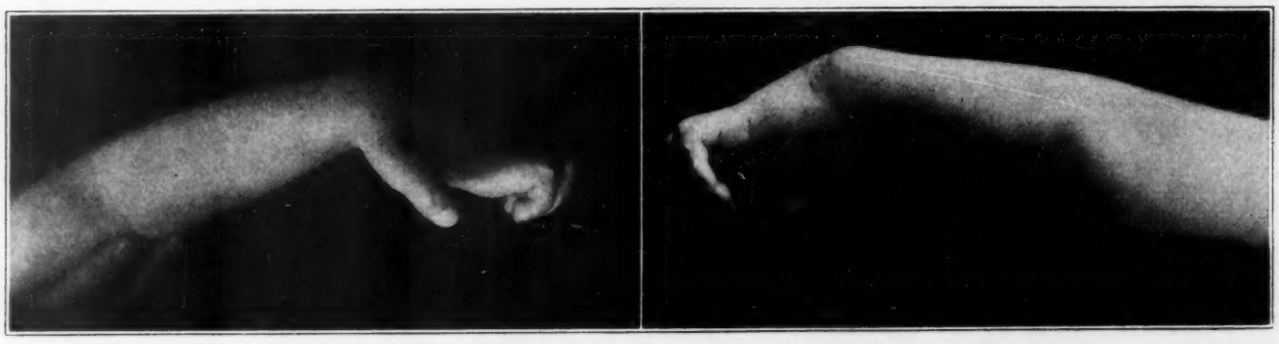

Fig. 1.—Volkmann's ischemic contracture of ten weeks' duration. The patient was a boy, aged 6 years, whose arm had been kept in acute flexion following a supracondylar fracture of the left humerus. The two views are of the same arm.

TABLE 1.—*Results of Treatment at Mayo Clinic in Volkmann's Ischemic Contracture, Fracture of Lower Part of Humerus* *

Treatment	Cases	Per Cent (of 46)	Marked Improvement	Improvement	Improvement (?) or No Change	Result Unknown
Lengthening of tendons	18	39.1	12	4	..	2
Manipulation	6	13.0	1	3	1	1
Neurolysis	4	8.7	1	1	2	..
Open operation on bone	4	8.7	1	2	..	1
Sympathectomy and resection of ulnar head	1	2.2	1	..	..	..
Gradual stretching with splints	13	28.3	5	4	..	4
Total	46	100.0	21	14	3	8
No treatment, referred home, and so on	23	(33⅓% of 69)				
Total	69					

* Of patients traced, the condition of more than 76 per cent is considered definitely improved.

TABLE 2.—*Involvement of Nerves in Volkmann's Ischemic Contracture, Fracture of Lower Part of Humerus*

Nerve	Cases
Radial	6
Radial and median	1
Radial, median and ulnar	2
Ulnar	1
Ulnar and median	1
Brachial plexus (1 partial)	2
Total stated	13
Not stated	56
Total	69

A fourth group of patients is encountered after several manipulations have been performed and considerable time has intervened since the fracture. The arm is then distended to such an extent as to demand immediate relief through surgical measures. There is no time to be lost, as degenerative changes may not be complete and viable tissue may yet be saved. It is at times impossible to judge accurately as to the amount of damage done to the nerves and blood vessels, for the circulation is no longer active and, with its loss, the nerve supply becomes numbed and the finer distinctions

TABLE 3.—*First Treatment Elsewhere in Volkmann's Ischemic Contracture, Fracture of Lower Part of Humerus*

Treatment	Cases	Per Cent
Splint	38	56.7
Cast	14	20.9
Acute flexion and bandage	13	19.4
Open operation	1	1.5
Suspension	1	1.5
Total stated	67	100.0
Not stated	2	
Total	69	

of sensation and motion are lost. Relatives should be advised and operation resorted to in the hope of preserving the function of the forearm, treatment of the fracture being of secondary importance. Skeletal traction, by means of a Kirschner wire through the olecranon, is an excellent method of correcting malposition of the fragments and should not in certain cases be overlooked as a useful aid, either as a preliminary to exploration of the hematoma or after careful operative inspection of the brachial artery

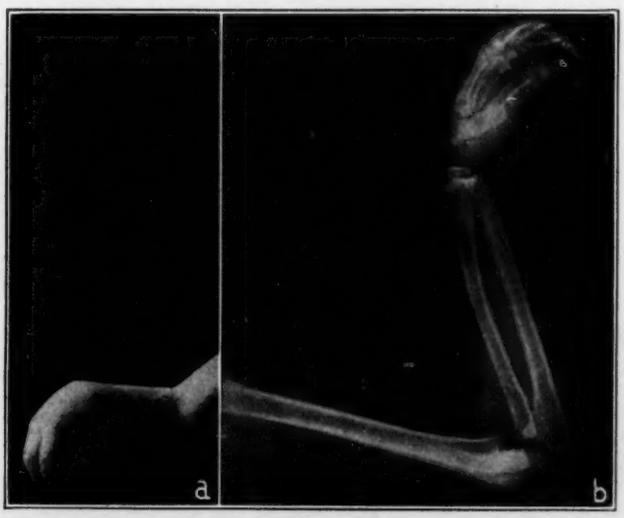

Fig. 2.—*a*, Volkmann's ischemic contracture. The patient was a boy, aged 4 years. He had suffered a supracondylar fracture of the right humerus. The arm had been kept in splints for two weeks, when flexion deformity and pressure sores in the antecubital region had developed. Then the arm had been splinted again. The ischemic contracture was of grade 3 and there was a scar in the antecubital region, resulting from pressure; *b*, evidence of malunion of the supracondylar fracture of the humerus, and claw hand.

and median nerve. Free incision over the hematoma and through the deep fascia liberates muscle tissue and blood that have been under tension. An incision mesial to the biceps permits the bicipital fascia to be divided close to the tendon, and the artery, vein and nerve can readily be inspected. Complete rupture of the brachial artery has been observed as well as partial or complete severance of the nerve. The deep fascia over the forearm may require division, and this may be done subcutaneously by means of a special knife. The fracture may be reduced and internal fixation used by means of bone screws or Kirschner wire, which may be passed up through the condyles into the proximal fragment. The entire arm is then enclosed in a large, moist alcohol and boric acid dressing and is suspended in abduction. The physician who has mastered the preventive mea-

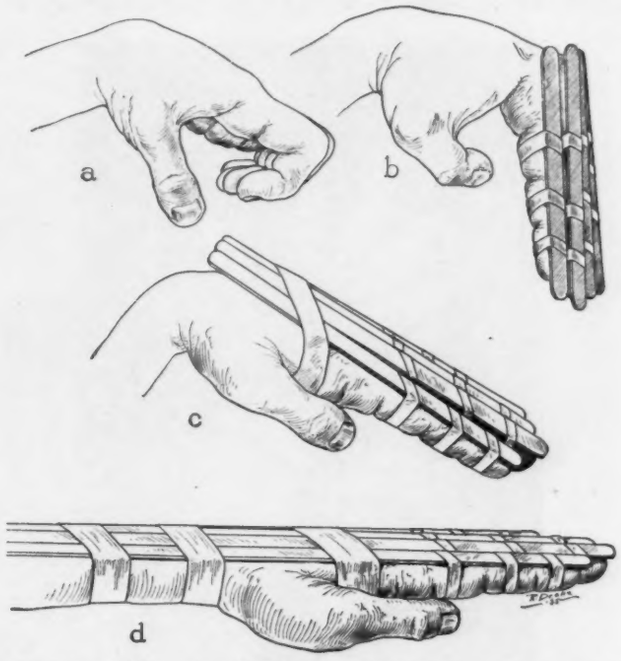

Fig. 3.—Methods of splinting: *a*, typical contracture; *b*, tongue depressors used as splints to extend fingers; *c*, tongue depressors used as splints to extend fingers and metacarpophalangeal joints; *d*, longer, wooden splints used to extend hand and wrist. All splints are padded with felt (not shown in the drawings) and are held in place by strips of adhesive tape, loosely applied.

sures described is in a position to meet the complications following supracondylar fractures in children and to prevent many of the disastrous complications of ischemic contracture.

TABLE 4.—*Interval from Injury to Discovery of Contracture by Physician or Patient in Volkmann's Ischemic Contracture, Fracture of Lower Part of Humerus*

Time	Cases	Per Cent (of 52)
"Immediate"	4	7.7
"Soon"	1	1.9
4 to 15 hours	4	7.7
1 to 5 days	13	25.0
1 to 2 weeks	7	13.5
2 to 3 weeks	7	13.5
3 to 4 weeks	6	11.5
1 to 2 months	8	15.4
2 months	2	3.8
Total stated	52	100.0
Not stated	17	(24.6 per cent of 69)
Total	69	

CONSERVATIVE TREATMENT OF VOLKMANN'S ISCHEMIC CONTRACTURE

Volkmann's ischemic contracture may occur in a few hours, and the earlier treatment is begun the better the results will be. The consultant is often called after the contracture has been present for some time, and he finds the wrist flexed, the metacarpophalangeal joints extended, and the phalanges acutely flexed. Motion at the elbow is often restricted and the hand is held in pronation; supination may be impossible and numbness of the forearm exists. As the damage to the soft tissues may be benefited by release of intrinsic

pressure, a consideration of the methods previously described should be given. No time should be lost in attempting gradual extension of the involved muscles, and the stretching method of the late Sir Robert Jones is generally recognized as excellent.

While the wrist is acutely flexed, it will be found that the fingers can be extended. Metallic splints are then fitted to each finger to maintain the corrected position.

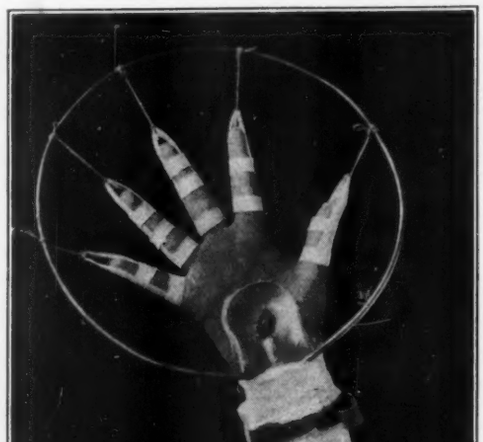

Fig. 4.—Banjo splint used to obtain extension of fingers and wrist.

The patient now attempts systematically to extend the metacarpophalangeal joints, which are contracted. In a few days the joints stretch sufficiently to allow the application of longer splints, which extend to the wrist. After the wrist is exercised for a few days the splint is extended to the elbow, and among such splints can be used those which maintain extension of the hand. Thus the contracture is gradually and painlessly overcome.

I have found many splints in use but I prefer the simple and inexpensive wooden tongue depressors found in every physician's office (fig. 3). With these padded and held by strips of adhesive tape, the principles of Jones may be carried out until stretching of the wrist requires longer splints, which are usually made of a thin piece of boxwood. The use of rubber bands to pull the extended hand toward the longer splint is useful in extending the wrist. The banjo splint, used with rubber bands fastened to adhesive tape on the fingers, permits the fingers to be exercised at all times and is most efficient; it is inexpensive, can be made in a few minutes, and permits the patient to be cared for at home (fig. 4).

Care must be taken to gain the confidence of these children, and after a short time they will become interested and will cooperate exceedingly well. Thus the first few treatments may consist of heat and whirlpool baths combined with light massage. The splints soon may be adjusted and worn during the intervals between treatments. Active motion is performed willingly, and as confidence is gained active motion may be supported by gentle passive motion and electrical stimulation. We at the clinic rely principally on heat and massage as aids to gradual stretching and do not believe that painful, passive motion or forceful manipulation under anesthesia is advisable.

The next stage in the treatment of Volkmann's ischemic contracture is that in which several months have elapsed since fracture, during which time treatment has been inadequate. The pain and swelling are gone and the hand is sensitive to cold and has the typical claw-like position; motion is limited. Usually the hand is held in pronation and there is limitation of motion in the elbow. Ulceration and scars from pressure of splints and bandages are not infrequent. Paralysis from primary injury or secondary to scar formation may involve one or more of the main nerve trunks. The radial pulse may be absent, and the arm and hand have lost the cyanotic appearance and are white. Attempts to straighten the fingers with the wrist extended bring out the tight flexor tendons and the hard atrophied flexor muscles; the finger nails cut into the hand of the examiner. The extensor group of muscles are, on the other hand, preserved or only slightly involved. There may be atrophy of bone and myositis ossificans, and roentgenograms may disclose malposition of the fracture, requiring correction. All forms of treatment now prove less satisfactory, and prolonged and adequate conservative treatment is best. First the Jones, or banjo splint, method of extension, combined with physical therapy, should be tried. When this has failed, the next stage is reached and surgery may now render the contracture more responsive to conservative treatment.

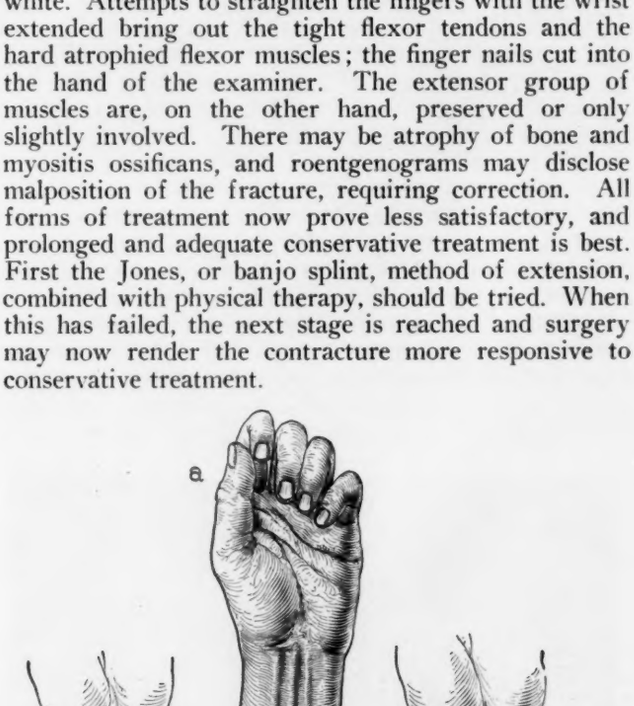

Fig. 5.—The operation: *a*, line of incision on palmaris longus tendon; *b*, vaginal fascia exposed; *c*, left, incisions which make possible stretching of tendon and, right, tendon stretched; *d*, tendons in process of being stretched by use of hemostat.

In the third stage a group of deformities of longer duration is encountered, years often having passed with the contracture persisting in spite of treatment. Marked contracture, atrophy of bone, scars, contracted capsules, nerve degeneration and impaired circulation, and a ropelike musculature challenge the most expert surgical care. The surgeon must now realize that, no matter what type of operation is performed or how

skilfully it is done, he cannot bring about complete cure; when all other means have failed he is the only recourse, and he plans the operation in the hope of bringing about an improved cosmetic result and some return of function. If the flexor muscles are entirely fibrous the prognosis is poor. The surgeon should also remember that without careful postoperative care and prolonged and intelligent physical therapy he can accomplish little.

Through lengthening of tendons the surgeon is able to obtain extension of the fingers and wrist; the extent and benefit of this procedure depending on the damage done (fig. 5). A longitudinal incision parallel to the palmaris longus muscle is made and the vaginal fascia is divided, exposing the muscle and tendon. By retracting the fascia one exposes the superficial group of muscles, and the tendons are lengthened by two oblique sections, 2.5 cm. apart, three fourths of the distance across the tendons, stretched by means of forceps passed underneath. The usual muscles lengthened are the palmaris longus, flexor carpi radialis, flexor pollicis longus, and flexor digitorum profundus. In some instances the surgeon will find the median nerve bound down in a fibrous scar and neurolysis will be advisable; also the tendency to supination in the more resistant cases may be benefited by section of the pronator quadratus or the pronator teres.

I have observed a considerable difference in the amount of fibrous scar tissue and fixation of the structures about the wrist. In some cases it is possible to leave the tendons in their sheaths during operation and a minimum of retraction, scarring and adhesions results. When lengthening of the flexor pollicis longus and flexor digitorum profundus is performed, considerably more trauma is likely to result, binding the entire mass in scar tissue. With care this operation can be carried out with distinct satisfaction to the patient (fig. 6); it allows correction of the deformity and improved function.

Neurolysis is beneficial especially when pressure sores are obvious and scars cause contracture and fixation of the nerve. The condition found at operation frequently leads the surgeon to conclude that the entire ischemic contracture is the result of injury to and fixation and degeneration of nerves. I feel that the changes in the nerves are usually secondary to the ischemia unless a primary injury or rupture occurs at the time of accident or manipulation. I have seen complete rupture of the median nerve following supracondylar fracture and ischemic contracture. In this series of cases the radial nerve was most commonly injured.

Resection of bone is resorted to in long standing cases of contracture in which the tendons are extremely short and all attempts at conservative treatment have failed. A bone graft may be used to bridge and maintain the wrist in extension. The stretching of nerves and blood vessels after years of contracture, during which time the bone has grown and the tendons have remained as they were, is not practical. I cannot agree with some who condemn this operative procedure of removal of bone. There is a group of older patients with long standing deformity in which resection of the carpal bones or radius and ulna give excellent cosmetic results and a measure of functional benefit.

Lowering of the common origin of the flexors at the epicondyle is an operation which partially releases contracture and is used in combination with gradual stretching. It may be performed at the same time the median and ulnar nerves are examined.

When the proximal end of the humerus projects forward in malunion, preventing flexion of the elbow, or excessive callus formation or an ossifying hematoma exists, excision of the bony mass may be of benefit. Often there is contracture of the capsule of the elbow that will require capsulotomy. The biceps tendon may require lengthening as a result of involvement of the muscle from ischemia or long contracture. Even arthroplasty of the elbow would be preferable should the foregoing measures fail to permit movement and the function of the arm be not too seriously damaged. Sympathectomy has not as yet had a fair trial, but in one case it seemed to be of some aid.

Several patients have been encountered who had such extensive and long standing deformity and disability as to warrant amputation, in order to rid them of a useless and unsightly deformity.

Fig. 6.—Volkmann's ichemic contracture with malunion. The patient was a youth, aged 19 years. Five years before, he had sustained a supracondylar fracture and splints had been applied. When these had been removed, scars from sloughing, and deformity and stiffness of the arm, elbow, wrist and fingers had been disclosed. The patient was operated on and has reported that function is good. Scars can be seen on the arm and over the fifth metacarpal.

The prognosis depends on many factors: the age of the patient, the type of bandages, splints and casts used and whether they have caused pressure sores and scars, the extent of hemorrhage, and whether good union or malunion was obtained, whether infection was present or there was damage to blood vessels or nerves, the presence of an ossifying hematoma, and degree of contracture and extent of fibrosis of muscle.

SUMMARY

Volkmann's ischemic contracture is most frequently associated with supracondylar fractures treated by acute flexion. In the presence of swelling and hemorrhage, acute flexion tends to impair circulation by increasing pressure in the antecubital space, even though the fracture is reduced.

Reduction of the fracture may be deferred several days, the treatment being directed to the care of the soft parts in order to preserve function. Elevation of the arm hastens the relief of swelling in recumbent treatment, abduction on an airplane type of splint in the ambulatory treatment. Drainage of large hematomas may be indicated. Reduction and internal fixa-

tion of the fracture following removal of blood clots is feasible and is a useful aid in preventing impaired circulation.

Prevention is possible in many instances, provided the patient is seen in time and the utmost care is used to combat circulatory damage.

Hemophilia also may cause Volkmann's ischemic contracture.

Conservative methods of treatment, such as the stretching method as advised by Sir Robert Jones, constant stretching with the banjo splint, and physical therapy give the best results. Severe deformities of long standing require in addition surgical intervention.

Intrinsic or extrinsic pressure from various causes cuts off the venous flow while permitting some arterial flow; hemorrhage, with the formation of blood clots, infiltration, edema, acute flexion, malposition of fragments, and pressure of bandages, splints and casts are some further factors concerned in impairing circulation.

In obtaining the history special attention should be paid to the type of injury, the length of time before treatment, and evidence of injury to blood vessels or nerves. A record of the previous treatment, together with roentgenograms taken before and after reduction, should be available before the consultant assumes responsibility.

Volkmann's ischemic contracture may result from injury or hemophilia even when treatment has not been given.

THE MISUSE OF TANNIC ACID

FREDERIC TAYLOR, M.D.
INDIANAPOLIS

At the present time the tannic acid treatment of burns is in more general use than any other. It has attained its great popularity through its success in extremely severe burns in which the life of the patient is at stake and when wound dressings form an important part of the problem.

Because of this acceptance in the more severe burns, tannic acid is being used quite extensively in the less severe burns. It is a common sight to see the skin of the ambulatory clinic patient blackened by a tanning agent. Numerous ointments containing tannic acid or other protein coagulating material are on the market. Fortunately these have not become generally adopted. Nevertheless they are frequently used, as is tannic acid in the treatment of simple "second degree" burns.

The argument in this procedure is that since tannic acid is generally thought to be quite the approved method of treating severe burns it must likewise be the treatment of choice in less severe burns. In the present article the fallacy of this line of reasoning will be pointed out and some of the tissue changes occurring in the burned and subsequently tanned skin will be analyzed.

With the injury of the skin by heat, a varying thickness of the epithelium is killed. When this involves only the superficial layers, regeneration takes place quite rapidly from the remaining germinal layer. If the germinal layer also is destroyed, regeneration takes place from the depths of hair follicles and sebaceous glands where the epithelium is still viable. Under favorable conditions this new growth of epithelium proliferates over adjacent granulation tissue, thus eventually covering the entire surface. From a theoretical standpoint, remnants of sweat glands should be able to undergo the same proliferation. However, in the skin sections of burned tissue thus far studied, this source of a regenerating epithelium seems to be negligible. If the burn has destroyed the epithelium of the hair follicle and sebaceous gland there is of course no possible source of regeneration except about the periphery, where destruction was less severe. This type of "third degree" burn forms a small minority of burns encountered.

From the Department of Surgery, Indianapolis City Hospital.

ACTION OF TANNIC ACID ON SKIN

If the usual 5 per cent tannic acid solution or any other protein coagulating material is applied to uninjured skin, the outer layers are tanned or "fixed." If this tanning process is continued with sufficient intensity, the "prickle cell" layer and even the germinal layer may become "fixed" and therefore killed. During the usual tannic acid treatment the germinal layer of normal skin is not tanned by the process. It is well protected by the heavy cornified layer of the human skin. However, tanning may often extend well down into the "prickle cell" layer of the normal skin.

Quite a different condition exists following the use of tannic acid on injured or burned skin. The dead epithelium is of course "tanned" rather rapidly. If the process stopped at this point, the treatment could certainly be termed ideal. Unfortunately with the usual treatment the tannic acid continues to penetrate and "tans" the underlying viable epithelial cells, the very cells that might have taken such an active part in the regeneration of the surface epithelium.

It is the common belief that tannic acid precipitates the protein of only the dead or injured tissue. This seems evident, since the uninjured epithelium does not become blackened by the repeated application of tannic acid. The reason for this apparent failure to become tanned is the protective action of the cornified epithelial layer. This strongly resists the acid and prevents it from damaging the underlying delicate germinal layer. However, once this cornified layer is destroyed or broken the tannic acid readily reaches the germinal layer or the outer portions of the hair follicles. Here it "tans" these actively growing cells quite easily and rapidly. Thus the treatment destroys many of those very cells from which one expects active regeneration to occur.

This precipitation of the germinal layer by tannic acid is known to all who have studied sections from such tissue. In figure 1 is shown a section taken from the margin of a burn three days old. It occurred in a child whose clothes became ignited while at play. The treatment consisted of the usual spray method of applying 5 per cent tannic acid solution. It is noted that the viable epithelium stops abruptly where the tannic acid coagulum begins. There are no living epithelial cells in or beneath this coagulum. It is of course possible that the burn ended just as abruptly as is indicated in the photomicrograph and that the coagulum included only the dead epithelium. This, however, seems highly improbable, especially since practically all similar sections studied present the same abrupt termination of living epithelium. It seems more probable then that the cornified layers adjacent to the living epithelium in figure 1 were injured by the burn, thus allowing the tannic acid to penetrate to the germinal cells and incorporate these in the coagulum.

The ability of tannic acid solution to "tan" live epithelium is easy to demonstrate experimentally. Figure 2 illustrates the skin of a rabbit that has been painted with 5 per cent tannic acid twenty-five times during a six hour period. It will be noted that the rabbit (or most experimental animals for that matter) has practically no protective cornified skin layer. Therefore the tanning solution may act on the germinal epithelium with little interference. In the photomicrograph the entire surface epithelium has been tanned and thus killed. The tanning process has extended down along the hair follicle to a point indicated by the arrow. Beneath the arrow is noted the usual heavy band of inflammatory cell infiltration. In the illustration most of the epithelial cell nuclei are plainly visible and give the impression that their cells are still alive. This is due to the fact that they have been thoroughly "fixed" by the tanning solution and the section has been removed just twenty-four hours after the tannic acid was first applied.

It may be argued that if the underlying viable epithelium is coagulated by the treatment too much tannic acid has been used. Who can say just how much to apply in a given burn, or, for that matter, who can say on first inspection of a recent burn just how deep the burn has penetrated? What epithelial islands have been killed? What islands may survive unless they are immediately coagulated by tannic acid?

No one would consider treating the donor site of a split skin graft with tannic acid. Yet this situation is quite comparable with the usual burn in which regeneration must also take place from the remaining living epithelial cells of the hair follicles.

It would seem wiser then in the treatment of the great majority of burns not to institute any therapy that might destroy surviving epithelial cells. As previously mentioned, first inspection of a burn, except in

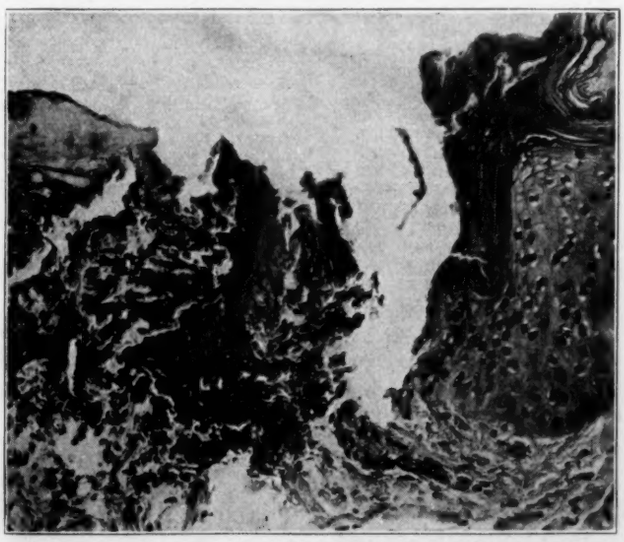

Fig. 1.—Margin of a burn three days old which has been treated with tannic acid. The coagulum has been torn in sectioning. Note that the epithelium ends abruptly and that no viable germinal cells are found beneath the coagulation zone.

rare cases, will not reveal which tissue will live if given favorable opportunity and which will die. Therefore it is suggested that any coagulating material be withheld from all burns except the more extreme cases in which the life of the patient is at stake. It is further suggested that bland dressings of saline solution, dilute solution of sodium hypochlorite or ointments be instituted until it can be determined just which epithelium will survive and which will die. It is fully admitted that this procedure creates a definite problem of dressing the wound. These are painful and dirty and greatly increase the nursing care required. This care does,

Fig. 2.—Normal skin of rabbit tanned and removed eighteen hours later. The epithelial cells are tanned and thus killed over the entire surface and down into the hair follicle to the point indicated by the arrow. Regeneration in this case would have to start from the very base of the follicle. The usual band of inflammatory cell infiltration is noted beneath the coagulated surface (just under the arrow).

however, allow the uninjured epithelium to proliferate at maximal speed and to cover the denuded area in the shortest length of time.

It is not within the scope of this discussion to consider those extremely severe cases for which the original Davidson tannic acid treatment was suggested.[1] That, or at least a form of coagulation therapy, has come to stay, principally because of the greater ease with which these patients can be handled. It should, however, be pointed out that the greatly lowered mortality which has been reported in the use of tannic acid in burns is no doubt due to two factors entirely apart from the coagulative solution itself. These are (1) an increased interest on the part of the hospital staff treating cases of burns and (2) a full appreciation of the resultant shock and the replacement of lost fluids of the body.

Coan[2] has recently suggested the use of ferric chloride as a coagulant. This would seem to offer much the same objections found in tannic acid. Of the numerous coagulants that have been advocated, the 1 per cent gentian violet suggested by Aldrich[3] is the least harmful to the regenerating epithelial cells. In the present study it was found that gentian violet will destroy germinal epithelium, but to a lesser extent, and will not penetrate or cause the severe local reaction encountered with tannic acid.

1. Davidson, E. C.: The Use of Tannic Acid in the Treatment of Burns, Surg., Gynec. & Obst. **41**: 202 (Aug.) 1925.
2. Coan, G. L.: Ferric Chloride Coagulation in Treatment of Burns, Surg., Gynec. & Obst, **61**: 687 (Nov.) 1935.
3. Aldrich, R. H.: The Rôle of Infection in Burns, New England J. Med. **208**: 299 (Feb. 9) 1933.

SUMMARY

1. The tannic acid treatment of burns was originally advocated for use in severe, extreme cases. It is now frequently used in milder "second degree" burns.

2. The action of tannic acid applied to a burned area in which viable islands of the germinal epithelial cells still survive is not limited to the dead tissue. Many of the epithelial cells that might take part in the repair of the denuded area are also "tanned" by the treatment. Repair is thus delayed.

3. It is suggested that coagulation treatment of burns be reserved for the most severe types and that bland wet dressings and ointments be used on the great majority of "second degree" burns.

23 East Ohio Street.

CLINICAL MONGOLISM IN COLORED RACES

WITH REPORT OF A CASE OF NEGRO MONGOLISM

ARNOLD GESELL, M.D.

Director of the Clinic of Child Development, Yale University School of Medicine

NEW HAVEN, CONN.

As early as 1843 Sequin described a mongolian type of mental defect in France and later Lombroso of Italy recognized the condition in his account of Mattinette Colombo. It remained for J. Langdon Down in 1866 to delineate a clinical picture of mongolism. As late as 1903 very little had been written on the subject except in Great Britain. Muir [1] mentions two German and five American references and states that mongolism seems to be confined to the Caucasian race.

This point of view was generally accepted until 1922, when Tumpeer [2] and Demuth [3] reported two cases in Chinese children. Interest in the racial aspects of mongolism received an impetus in 1924, when Crookshank [4] denied the possibility of mongolism occurring in the Negro, although reports of three cases had been published prior to 1924. Bullard [5] had reported one case in 1911 and von Hofe [6] two in 1922.

SURVEY OF THE LITERATURE

I have made a survey of the literature and find that since 1924 a total of twenty-eight cases of Negro mongolism have been reported in America. In the present paper I am reporting an additional case, bringing the grand total of cases in the medical literature to thirty-two. These cases are all listed in table 1. The present survey also revealed five Chinese cases, more than sixty Japanese, one Hindu and one West Indian case.

It was once doubted whether mongolism occurs in the Semitic race. The literature, however, now reports cases in Jews from Asia Minor, Germany, France, England, Poland and Galicia. In the United States it has been found in Austrian, Russian, Rumanian and American Jews.

In a series of 2,090 admissions to the Fountain Mental Hospital (England), Dr. Brushfield [7] reported 177 mongolians. For 151 of these, case histories were obtained and twenty-four, or one in 6.5, proved to be British born Jews, a rather high proportion.

The number of countries or nationalities in which mongolism is now known to occur is at least twenty-three, as follows: Australia, Austria, Bermuda, China, Holland, England, France, Germany, Greece, Italy, India, Ireland, Japan, Mexico, Norway, Poland, Rumania, Russia, Scotland, South Africa, United States, Wales, West Indies.

TABLE 1.—*Report of Cases of Mongolism in Colored Races*

Author	Date Reported	Number	Sex	Age at First Examination	Position in Family	Reported Age of Mother	Reported Age of Father
Negro							
Bullard [5]	1911	1	♂	13 yr.	..	..	..
von Hofe [6]	1922	2	..	..	..	..	..
Bleyer, A.: J. A. M. A. **84**: 1041, 1925	1925	1	♀	5 mo.	8	35	40
	1925	1	♀	21 mo.	4	..	..
	1925	1	♂	..	..	..	..
Davenport, C. B., and Allen, G.: J. Psycho-Asthenics **29**: 266, 1924-1925	1925	2	..	..	..	..	..
Herrman, C.: Arch. Pediat. **42**: 523, 1925	1925	2	..	..	..	..	..
Schlapp, M.: J. Hered. **16**: 161, 1925	1925	1	♂	..	..	..	..
	1925	1	♀	..	..	..	..
	1925	6	..	..	..	..	..
Brahdy, M. B.: Arch. Pediat. **44**: 724, 1927	1927	1	♀	7½ yr.	2	..	..
Wile, I. S., and Orgel, S. Z.: M. J. & Rec. **127**: 431, 1928	1928	1	..	1 yr. 9 mo.	..	..	..
Bleyer, A.: Am. J. Dis. Child. **44**: 503, 1932	1932	5	..	..	..	..	..
Mitchell, A. G., and Cook, W. C.: J. A. M. A. **99**: 2105, 1932	1932	1	♂	12½ yr.	1	31	30
	1932	1	♀	3 yr.	1	..	..
	1932	1	♀	9 days	2	19	..
	1932	1	♀	7 yr.	3	21	30
Dunlap [9]	1933	1	♂	7 mo.	2	25	26
Radeff, I. N.: Illinois M. J. **66**: 279, 1934	1934	1	♂	..	..	..	..
Chinese							
Tumpeer [2]	1922	1	♂	9 yr.	9	38	66
Demuth [3]	1922	1	♂	1 day	2	19	20
Brousseau, K.: Mongolism, Baltimore, Williams & Wilkins, 1928	1928	1	..	..	..	..	..
Sweet, L. K.: J. Pediat. **5**: 352, 1934	1934	1	♀	2 yr. 2 mo.	2	35	35
	1934	1	♀	18 days	5	40	40
Japanese							
Brushfield [7]	1924	1	..	..	..	..	..
Okashima, K., cited by Sweet	1925-1926	4	..	..	..	..	..
Arai, K., cited by Sweet..	1927	5-6	..	..	..	..	..
Brousseau	1928	1	..	..	..	..	..
Yasui, K. S., cited by Sweet	1931	1-2 each year	..	..	..	..	..
Yamashita, H.: Orient. J. Dis. Inf. **9**: 25, 1931	1931	1	♀	1½ yr.	..	..	..
Washio, J., cited by Sweet	1932	50	..	..	..	..	..
Hill, A. L.: California & West. Med. **37**: 192, 1932	1932	1	♂	2 yr. 3 mo.	5	37	45
	1932	1	♀	15 mo.	5	34	46
West Indian							
Wile and Orgel	1928	1	..	..	..	..	..
Indian							
Chand [10]	1932	1	♂	6 yr.	2	30	32

AN INSTITUTIONAL AND SCHOOL CENSUS OF NEGRO MONGOLIANS

My interest in the racial aspects of mongolism has grown out of the experience in our own clinic. Over a period of twenty-three years we have diagnosed 107 cases of mongolism: fifty-six girls and fifty-one boys. In the same period we have examined 215 Negro children referred for developmental diagnosis. Only one of these presented mongolism. Inquiry showed that in

1. Muir, J.: An Analysis of Twenty-Six Cases of Mongolism, Arch. Pediat. **20**: 161-169, 1903.
2. Tumpeer, H.: Mongolian Idiocy in a Chinese Boy, J. A. M. A. **79**: 14-16 (July 1) 1922.
3. Demuth, F.: Mongoloide Idiotie bei einem Mongolen, Ztschr. f. Kinderh. **33**: 110-112 (July) 1922.
4. Crookshank, F. G.: The Mongol in Our Midst, ed. 3, New York, E. P. Dutton & Co., Inc., 1931.
5. Bullard, W. N.: Mongolian Idiocy, Boston M. & S. J. **164**: 56, 57, 1911.
6. von Hofe, F. H.: A Report of 150 Cases of Mongolian Idiocy, Arch. Pediat. **39**: 737-740 (Nov.) 1922.
7. Brushfield, T.: Mongolism, Brit. J. Child. Dis. **21**: 241-258 (Oct.-Dec.) 1924.

a similar period there has not been a single case of Negro mongolism in the state school for the feebleminded. Connecticut has a colored population of over 29,000. This accordingly suggested a low rate of incidence.

In order to secure further statistical indications of the frequency of mongolism among Negroes, we made a

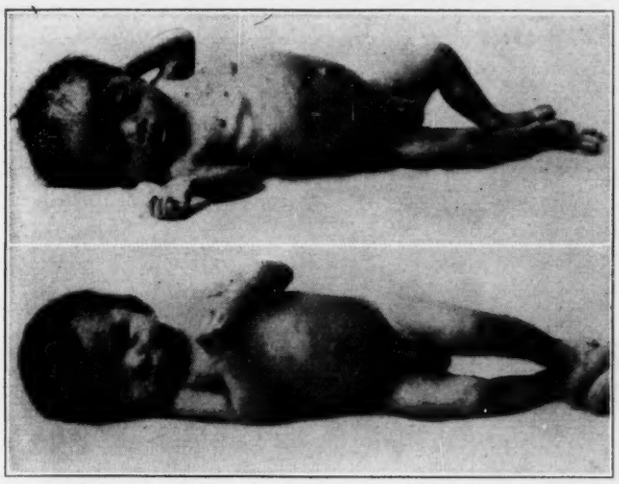

Fig. 1.—Comparison of clinical and racial mongolism: above, mongolism in a Chinese infant aged 7 months; below, a normal Chinese infant aged 3½ months. (After Demuth.)

nation-wide canvass by letters addressed to state officials and other persons who might furnish information.[8] The following questions with slight variations were included in the letters of inquiry:

1. Present white population enrolled in your institution?
2. Number of white mongolians in this population?
3. Present colored population enrolled in your institution?
4. Number of colored mongolians in this population?
5. Number of colored mongolians admitted in previous years?

TABLE 2.—*Mongolism as Observed in Institutions*

Race	No. of Institutions	White Inmates	Negro Inmates	White Mongolians	Per Cent	Negro Mongolians	Per Cent
Institutions							
Negro only	2	.....	3,389	...	...	0	...
White only	14	10,513	.....	308	2.9	..	...
Mixed, reporting Negro and white mongolians	16	30,487	1,607	843	2.7	30	1.8
Mixed, reporting white mongolians only	24	27,546	1,002	768	2.7	0	...
Public school systems							
Mixed, reporting Negro and white mongolians	..	14,376	1,848	39	0.27	6	0.32
Metropolitan hospitals							
Mixed, reporting Negro and white mongolians	..	.....	.....	377	...	31	...
Previous attendance							
Negro (Institutions, 15; public schools, 1)						16	...
Reported in literature							
Inclusion of present case						32	...
Total				2,335		115	

A total of fifty-six institutions, three large general metropolitan hospitals and four public school special class systems reported mongolians, either white or Negro. The results are tabulated in table 2.

This canvass, including the thirty-two cases assembled from the literature, yields a total of 115 Negro mongolians identified by clinics, schools and institutions. The number is far from complete, but it is sufficiently large to controvert (once again!) Crookshank's positive assertion that mongolism does not occur among Negroes. Since a race is being dealt with which has only recently been transplanted into a new, civilized environment, and since mongolism possibly has an endocrine basis, it would be interesting to know whether these figures represent an increasing trend. But the requisite data for a judgment are not available.

These figures cover forty-two states in the Union and are sufficiently comprehensive to be indicative. From the Southern states excepting Texas, which supplied no data, only forty-two mongolians were reported. Two Negro institutions with a population of 3,389 reported no mongolian whatever. Even if it is assumed that less than one tenth of the feebleminded population is institutionalized, this figure suggests a low incidence for Negro mongolism. In the Northern states, where institutional provisions for the colored population are probably more abundant, the trends seem similar. Connecticut is a fair example. In round numbers it has a white population of 1,500,000 and a colored population of 30,000, a ratio of 50 white to 1 black. The State Institution for the Feebleminded cares for 1,230 white and forty colored persons, among whom there are forty-two white mongolians. In the whole history of the institution, extending over twenty years, no colored mongolian has been committed. As already mentioned, the Yale Clinic of Child Development, over a similar

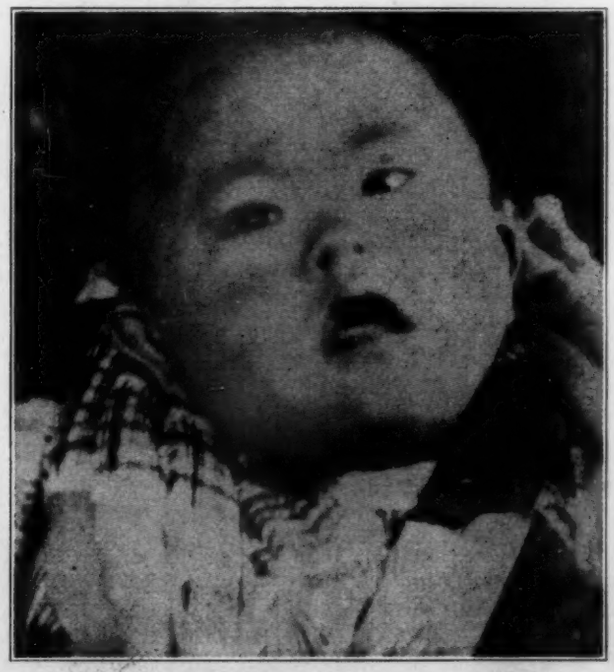

Fig. 2.—Clinical mongolism in a Japanese infant aged 18 months. (After Yamashita.)

period of years, has received only one colored mongolian among a total intake of 107 mongolians. If the racial proportions in the general population were statistically maintained, our clinic should have had two colored mongolians on its panel, and the state institution at least one.

Dr. Dunlap[9] of Dallas, Texas, likewise finds that no case of Negro mongolism has been encountered in five

8. I wish to acknowledge the cooperativeness of the numerous persons who furnished information. I am particularly indebted to the following for making available statistical data from their records: Dr. Neil A. Dayton, director of statistics and research, Department of Mental Diseases of Massachusetts; Miss Elizabeth A. Walsh, acting director of the Board of Education of the City of New York; Miss Normal E. Cutts, supervisor of the Department of Exceptional Children of New Haven, Conn.; Harvard Medical School Children's Hospital, Boston; Johns Hopkins Hospital, Baltimore; Presbyterian Hospital, New York.

9. Dunlap, J. E.: Mongoloid Idiocy in a Negro Infant, J. Pediat. **2**: 615 (May) 1933.

years in the Baylor University outpatient service, even though the colored attendance is double that of the whites, among whom three or four mongolians appear each year. It is such apparent disparities which build up the impression that mongolism in the Negro is extremely rare.

The available figures for the country as a whole make a similar impression. In terms of our canvass the number of ascertained (certified) white mongolians is 0.0016 per cent of the total continental white population of the United States. On the other hand, the number of ascertained colored mongolians is 0.00069 per cent of the entire colored population. If gratuitously one took these figures at a face value, white mongolism would appear to be two and a half times more frequent than Negro mongolism.

It should be noted here that of the 115 Negro mongolians listed forty-seven were reported by institutions, sixty-one by hospitals and physicians, and seven by directors of special classes. This would suggest that hospital populations now afford a more accurate indication of the frequency of mongolism among Negroes. The reported cases were invariably brought to the hospitals for respiratory and other ailments, and the diagnosis of mongolism was incidentally made.

Fig. 3.—Two institutional Negro mongolians: I. J., aged 10 years and 8 months, mental level 3 years. W. D., aged 16 years, mental level 2 years. (Courtesy of R. L. Dixon.)

Figures can be cited to show that the incidence for the black and the white race is nearly equal. For example, in sixteen institutions caring for 1,607 colored patients thirty, or 1.8 per cent, are mongolians. The same sixteen institutions care also for 30,487 white patients, 843, or 2.7 per cent, of whom are mongolians. This is a close approximation, particularly when one recalls that the mongolian is often so benign and manageable that he can be readily cared for at home.

The figures for Massachusetts are important because of the extensive institutional provisions of this state. Out of a total population of 4,250,000, Negroes number 52,000, a ratio of approximately 80 to 1. The cases in resident population at the three state schools total to 4,933, of whom seventy-six are black and thirty-seven mulatto. The number of white mongolians is 203; the number of black mongolians, two. This roughly satisfies the ratio of 80 to 1.

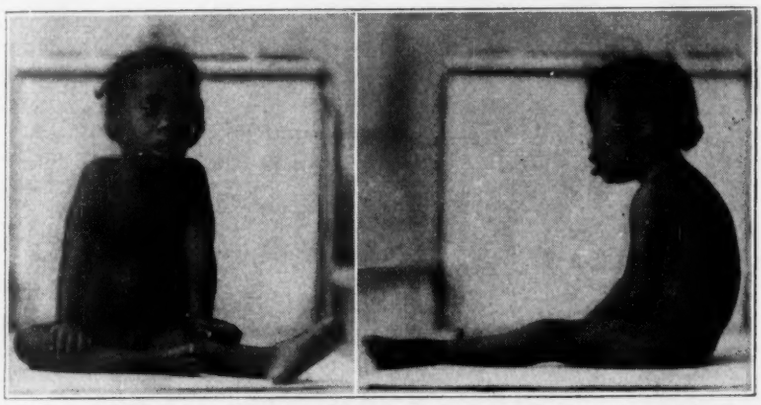

Fig. 4.—Clinical mongolism in a Negro girl (author's case). N. M., aged 4 years and 4 months, developmental level between 12 and 24 weeks.

Still more indicative are the statistics for public school special classes which enroll both white and black subnormal pupils. Out of a total enrolment of 14,376 white pupils, thirty-nine are mongolians. Out of a total of 1,848 colored pupils, six are mongolians. These percentages are significantly close; namely, 0.27 and 0.32. Distorting selective factors are probably least strong in determining the racial composition of public school classes for defective children. We have in this parallelism a strong basis for believing that mongolism is not significantly infrequent in the colored race.

RACIAL AND CLINICAL STIGMAS

The racial theory of the origin of clinical mongolism is weakened by the differences between a normal Chinese child and a developmental mongolian. When the two were compared side by side, Demuth found that in the mongolian child the skull is very decidedly brachycephalic, the forehead precipitous. It rises directly upward from the eyes, while in the normal child it recedes in the form of a sphere. The occipital head line lies parallel to the forehead. The flat saddle nose scarcely reaches the level of the forehead; its end is broad; the nostrils extend upward. The eyes are not only (normally) slit or almond shaped but very oblique, and the eyeballs converge. Epicanthus is characteristic.

For a comparison of racial and clinical features of mongolism the reader is referred to the instructive photographs reproduced from Demuth's report (fig. 1).

Tumpeer [2] likewise found that the clinical features were not masked by the racial. The clinical mongolian presents a moon-shaped face without prominent cheek bones, and his eyes are more slitlike than those of normal siblings. Indeed, for developmental reasons the eyeballs of the clinical mongolian are set in oblique orbits and are not horizontally alined as in the yellow race.

The single case from India, described by Amir Chand,[10] presents such well defined features that the patient was nicknamed "Chinaman" by his neighbors. Mongolism is reported to be extremely rare in India. Crookshank asserted that it never occurs among the Dravidian population of India.

For further sidelights on the susceptibility to mongolism among Negroes I have examined the literature bearing on the distinctive biologic characteristics of the African race: Bakwin [11] gives a useful bibliography on this subject in connection with his study of the Negro infant. He finds rickets, tetany, convulsions and stillbirths much more frequent among Negro infants. On the other hand, deaths from birth injury and congenital malformations are much more frequent among white infants. Negroes have a shorter trunk length and a smaller vital capacity than whites. In external body size and conformation and in the anatomy and physiology of his internal organs the Negro is different from the white. Bean [12] states that the Negro has a smaller temporal brain lobe and a smaller spleen. A greater incidence of mental deficiency has been asserted.[13] Dayton's [14] statistics for the institutional population of feebleminded, however, show that 109 out of 4,816 whites presented developmental anomalies, while not one of 113 blacks and mulattoes was so classified.

The proportion of total mortality attributable to lesions of the nervous system, the kidneys and associated excretory organs, and the endocrine system is in each case smaller in Negroes than in whites. Although such differences are suggestive of a biologic disparity between the two races, they do not conclusively show that the white race is more liable to clinical mongolism.

I have discovered only three cases of cretinism in the Negro. If this condition is in fact so exceptional [15] it is a point of interest, because certain writers hold that there may be a fundamental relationship between cretinism and clinical mongolism. Collier [16] has reported one instance of these two conditions occurring in the same family. Tumpeer found in his case of mongolian idiocy in a Chinese boy that the basal metabolism rate was not significantly lowered and that restlessness rather than lethargy characterized the boy's behavior. Occasionally, however, it is reported that thyroid therapy has a beneficial effect on the early physical if not mental development of the mongolian. This again is suggestive of a relationship between cretinism and mongolism.

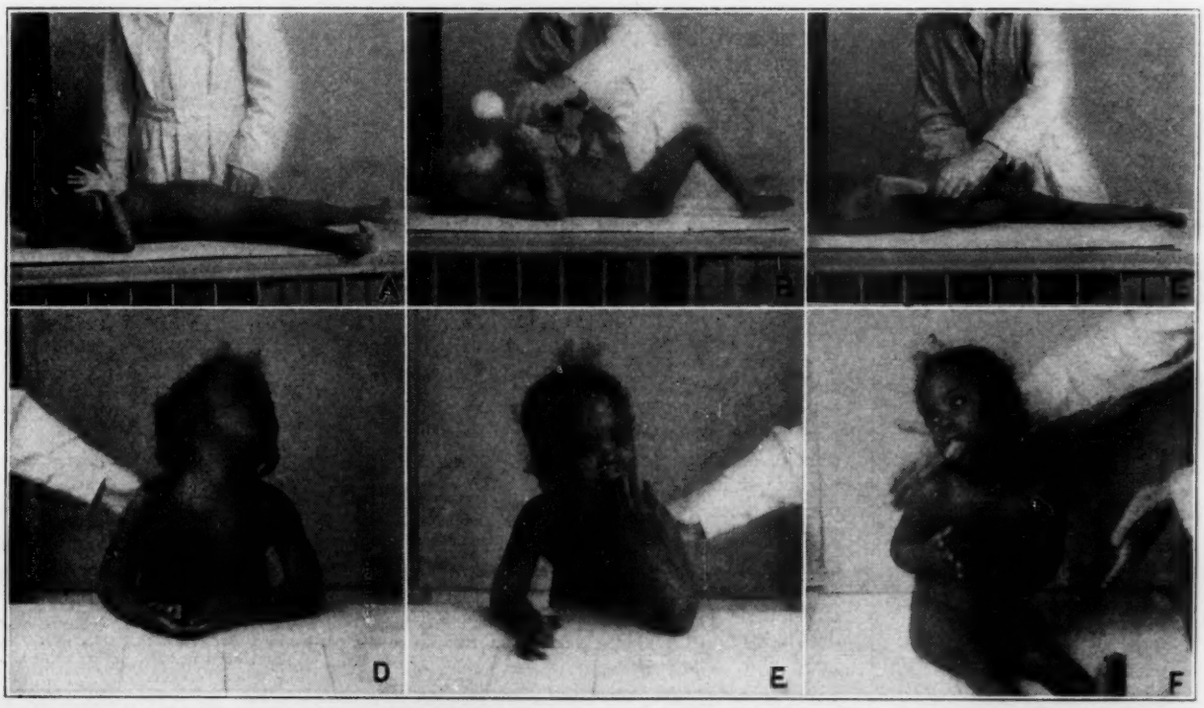

Fig. 5.—N. M., showing characteristic behavior as recorded by the cinema. *A*, spontaneous supine behavior; prolonged hand regard. Note the broad gap between the great toe and the adjacent toe. *B*, mouth reaching for rattle presented in the median line. *C*, demonstration of hypermotility of joints. *D*, head retraction without ocular fixation. *E*, mouthing of cube without inspection. *F*, protrusion of tongue and imperfect sitting balance.

CLINICAL MONGOLISM IN A NEGRO CHILD (AUTHOR'S CASE)

N. M., was referred to the Clinic of Child Development when she was 13 months of age. The parents are presumably full blooded. Two older siblings are normal. The mother worked throughout her pregnancy, but the child was born at full term with a birth weight of 7½ pounds (3,402 Gm.) and was nursed for three months. The home is clean, but the father has religious beliefs which have interfered at times with the child's adequate nourishment.

At the age of 13 months the patient weighed 16½ pounds (7.5 Kg.) and was 29 inches (73⅔ cm.) in height. She presented a behavior picture of low grade defect. She was flaccid and generally relaxed. She could not sit up, even with ordinary support. She preferred the supine position, rolling constantly to the left side. Her major activity in addition to this

10. Chand, Amir: A Case of Mongolism in India, Brit. J. Child. Dis. **29**: 201-205 (July-Sept.) 1932.
11. Bakwin, Harry: The Negro Infant, Human Biol. **4**: 1-33 (Feb.) 1932.
12. Bean, R. B.: Some Anatomical Characteristics of the Mongoloid: A Hypomorph White Type, J. Psycho-Asthenics **29**: 293-311, 1924-1925.
13. Viteles, M. S.: The Mental Status of the Negro, Ann. Am. Acad. Polit. & Soc. Sc. **139**: 166-177, 1928.
14. Dayton, N. A.: Mortality in Mental Deficiency Over a Fourteen Year Period: Analysis of 8,976 Cases and 878 Deaths in Massachusetts, Proc. of 55th Annual Session of the Am. Assn. for the Study of the Feebleminded, 1931; personal communication to the author.
15. The author is interested in securing more data on this interesting question and would appreciate any information which readers may bring to his attention.
16. Collier, W. T.: Cretinism and Mongolism in the Same Family, Brit. M. J. **2**: 1044, 1045 (Dec. 20) 1930.

rolling was a recurrent transfixed regarding of the hand. She could not reach for a rattle. She held it, when inserted in the palm, momentarily and without inspection. But her own hand she repeatedly inspected for prolonged periods whenever it came within a favorable ocular distance. She made no social response either to her examiner or to her mother. She vocalized in a monotonous, shrill, inarticulate manner. Her behavior patterns were atypical as well as retarded and were in general at or below a 12 weeks level of maturity.

The patient was again examined three years later, at the age of 4 years and 4 months. She proved to have made little developmental progress in the interval. Her behavior remained atypical and had scarcely advanced to a 20 weeks maturity level.

Her physical and behavior characteristics are outlined in table 3. They are further suggested in the accompanying reproductions of photographs (figs. 4, 5 and 6), which were derived from a cinema record made when the child was placed in a clinical crib and subjected to the various test situations of a developmental examination. Her behavior capacities may be summed up as follows:

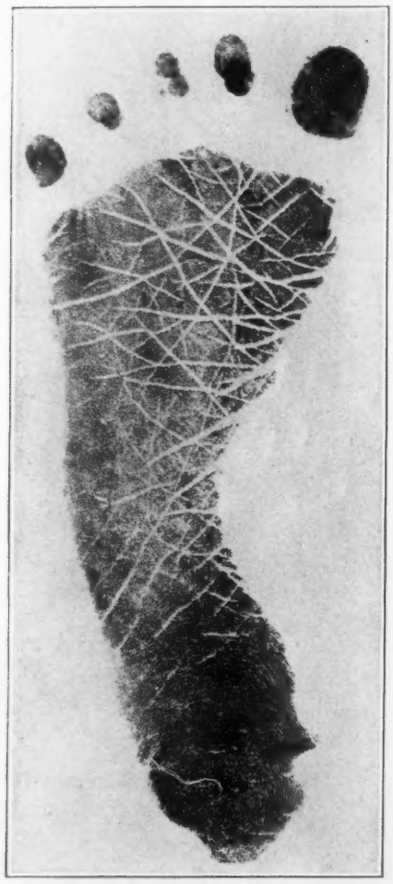

Fig. 6.—Plantar dermatograph showing coarseness of skin creases.

Postural Behavior.—She still prefers to lie on her back. She can sit (with marked lumbar kyphosis) for short periods, leaning on her hands. She rolls from back to side and sometimes to prone. She cannot herself attain a sitting position.

Perceptual Behavior.—She can be made to attend to a 1-inch cube on a table top. She does not regard a pellet. She frequently and prolongedly regards her own hand.

Prehensory Behavior.—She closes in oh a rattle when lying down and holds it prolongedly. She seizes a cube with crude palmar grasp when sitting.

Adaptive Behavior.—She manipulates a rattle without inspecting it. She senses loss of a rattle but does not pursue it when it drops.

Social Behavior.—She shows very meager social responsiveness. She attends more to the examiner's hand than to his face. She articulates a few inflected syllables.

SUMMARY

1. This paper attempts to throw light on the frequency of clinical mongolism in the colored races, with special reference to Negroes. The data that are presented include a survey of the literature, the results of a nation-wide canvass of institutions and schools, and the report of a new case.

2. In the illustrations the clinical stigmas are delineated to differentiate between clinical and racial characteristics.

3. Clinical mongolism in Negroes is more frequent than is commonly supposed. One hundred and fifteen cases were identified. Statistics for Massachusetts and for metropolitan public school systems, when analyzed, suggest that clinical mongolism occurs with almost equal frequency in black and white populations.

4. The distinctive biologic characteristics of the African race do not necessarily indicate greater immunity to clinical mongolism among Negroes, although congenital malformations are much more frequent among white infants.

5. In the author's case of clinical mongolism in a Negro child, behavior status was determined by a developmental examination. A tabular summary lists the thirty-one additional cases reported in the literature.

14 Davenport Avenue.

TABLE 3.—*Outline of Characteristics of N. M., Aged 4 Years and 4 Months*

Age:	4 years 4 months
Sex:	Female
Race:	Negro
Anthropometric Measurements:	
Height:	Vertex, 92.5 cm.
	Suprasternal, 71.6 cm.
	Symphysium, 40.05 cm.
Diameters:	Biacromial, 19.7 cm.
	Mesosternal, 16.2 cm.
	Iliocristal, 15.4 cm.
Girth:	Chest, 50.4 cm.
Weight:	13.07 Kg.
Head:	
Length:	15.8 cm.
Breadth:	12.3 cm.
Girth:	46.9 cm.
Intracanthal distance:	34 mm.
Anterior fontanel, open and depressed, admitting finger tip	
Forehead, well developed	
Nose, extremely flat and broad at base	
Nasolabial junction confluent, poorly defined	
Eyes, obliquely set in oblique orbits	
Eyelashes long and upturned	
Internal strabismus	
Ears, malformed, adherent; helix folded over	
Tongue, tip papillate	
Lower lip, full and fissured	
Hard palate, vaulted	
Teeth, irregular, upper especially so; right lateral incisor deviates outward	
Thyroid, palpable	
Spine, lumbar kyphosis	
Abdomen, protuberant; umbilicus protuberant	
Skin, clear, soft and redundant	
Hands and feet:	Fingers tapered; nails pink and well developed
	Great toe widely separated; palmar and solar skin coarsely creased
Postural behavior:	Atypical, at 24 weeks level
Perceptual behavior:	Near 20 weeks level
Prehension:	In part at 24 weeks level
Adaptive behavior:	12-20 weeks level
Social behavior:	Markedly defective; below 12 weeks level *

* These developmental ratings are based on norms as specified in Gesell, Arnold, and Thompson, Helen; Infant Behavior: Its Genesis and Growth, New York, McGraw-Hill Book Company, 1934, and Gesell, Arnold, and others: An Atlas of Infant Behavior: A Systematic Delineation of the Forms and Early Growth of Human Behavior Patterns, New Haven, Conn., Yale University Press, 1934, illustrated by 3,200 action photographs, in two volumes.

Minerals in Lean Meat.—When allowance is made for the difference in the moisture content, lean meat is closely comparable to whole-grain cereals in its content of the better known mineral elements. Both cereals and meat are fairly rich in phosphorus and iron but poor in calcium. Therefore, while the addition of meats, fish and poultry to a dietary based chiefly on cereals makes up for the deficiency of certain amino acids in the proteins of the grains, it does not supply the calcium so inadequately furnished by grain products. The glandular organs are relatively richer than the muscles in iron, phosphorus, copper and manganese, but they too are low in calcium. Salt water fish and shellfish are among the richest sources of iodine in the dietary.—Sherman, H. C.: Food and Health, New York, Macmillan Company, 1934.

THE ADDITIVE EFFECT OF CALCIUM AND DIGITALIS

A WARNING, WITH A REPORT OF TWO DEATHS

J. O. BOWER, M.D.
AND
H. A. K. MENGLE, M.D.
PHILADELPHIA

The specific therapeutic action of most drugs is generally well established and their action may be predicted with a fair degree of certainty. The use of drugs in combination has also led to recognition of the fact that certain drugs enhance the action of others—a synergistic effect. That certain drugs counteract the action of others, i. e., physiologic antagonism, is also common knowledge. However, the administration of one drug may produce a sensitization of the tissues, which so modifies the functional response of the tissues that a second drug exerts an effect diametrically opposed to its customary and expected action. This alteration of the functional activity of the cells may be produced by physical-chemical forces, by disease or by drugs.[1]

There are many examples of drugs exhibiting this reversal of action under varying conditions.

Calcium may produce a varying cardiac response, depending on existing circumstances. Its action is affected not only by the state of the cardiac musculature but by the earlier administration of other drugs. Furthermore, when calcium is employed beforehand, the action of other drugs may be modified.

From the Department of Surgical Research, Temple University School of Medicine, and the Philadelphia General Hospital.

1. Hanzlik, P. J.: The Basis of Allergic Phenomena, J. A. M. A. 82: 2001-2007 (June 21) 1924.

Calcium gluconate was introduced in 1927 and is available for intramuscular or intravenous use in a 10 per cent aqueous solution. It was presented as an improvement over the chloride and the lactate. It is not so irritating as calcium chloride and is much more effective than calcium lactate. The anion, gluconic acid, is easily destroyed by the body, being converted into dextrose. It requires very large amounts to cause toxic symptoms and because of its apparent harmlessness it is recommended by the manufacturers for oral, intramuscular and intravenous use. They point out that the effect following the intravenous injection is almost instantaneous, a hypercalcemia which lasts for some hours, after which the blood calcium gradually returns to its formal level. They list no contraindications. The following cases are reported because of our conviction that there are very definite contraindications to the use of calcium intravenously:

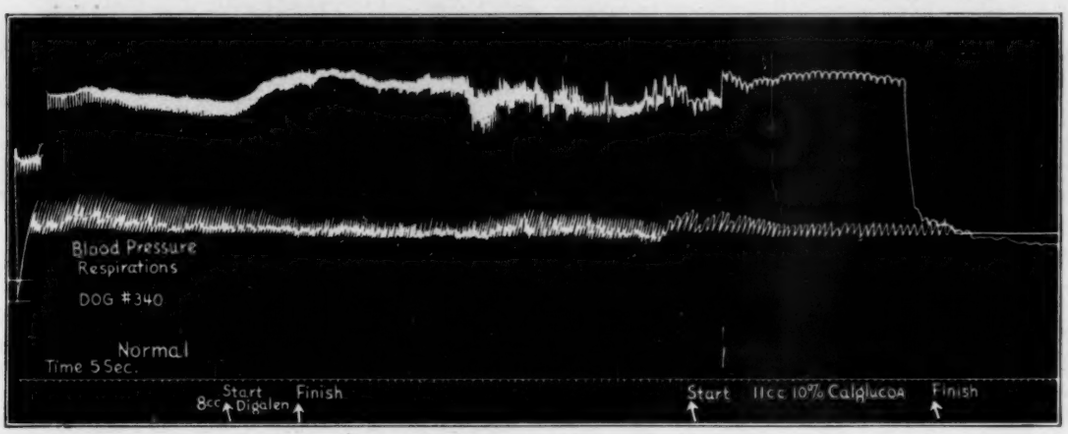

Fig. 1.—Calcium gluconate after injection of digalen.

CASE 1.—A white woman, aged 32, admitted in our service Jan. 2, 1935, with a history of several attacks of upper abdominal pain accompanied by nausea and vomiting, had a general history and physical examination typical of cholecystitis and cholelithiasis. The cardiac history was negative except for slight edema of the ankles, subsiding over night. The heart was normal by physical examination. The blood pressure was 120 systolic, 70 diastolic. The bromosulfalein test showed 35 per cent dye retention at the end of two hours. Cholecystectomy was performed January 3 under ether anesthesia. A single mulberry stone with hemorrhagic bile was found in the gallbladder. Two days after operation the pulse was 100, the blood pressure was 90 systolic, 50 diastolic, and extrasystoles were noted. Digalen, 15 minims (1 cc.) every four hours, was administered and the following day the pulse rate dropped to 90 and the blood pressure rose to 120 systolic, 58 diastolic. Six days after operation the patient's abdomen was normal; she

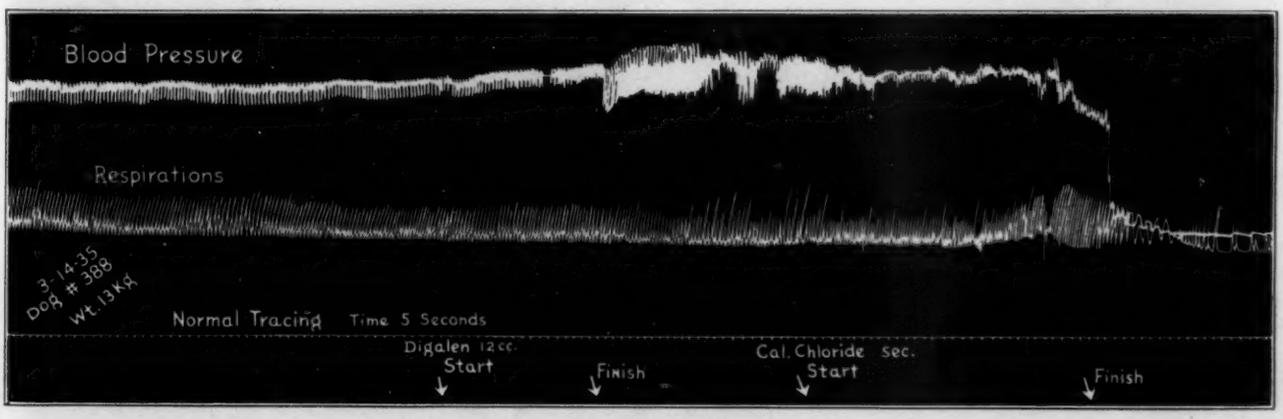

Fig. 2.—Calcium chloride after injection of digalen.

was passing gas; there was no distention and she was taking fluids by mouth without nausea. Her pulse, however, continued rapid and weak at a rate of 120. A medical consultant was called with reference to the tachycardia, as the lungs and abdomen were apparently normal. He suggested calcium intravenously, as he felt that "the tachycardia was probably due to toxic irritation of the accelerator mechanism through sympathetic involvement." Up to this point the patient had received approximately 250 minims (15 cc.) of digalen over a period of six days. The last dose preceded the administration of calcium by at least twenty-four hours. The patient was given 10 cc. of a 10 per cent calcium gluconate solution through a 26 gage hypodermic needle into the right antecubital vein. We used the gluconate because we considered it less irritating than the chloride. The injection was stopped after 5 cc. was given and the patient was engaged in conversation. After the injection was completed, she was asked if she felt all right. She replied that she did. About two minutes later her pupils dilated and she had a generalized convulsion with only slight muscular fibrillations. The heart sounds could not be elicited and the patient stopped breathing. In spite of artificial respiration and epinephrine given both intravenously and into the heart, the patient gave only a few inspiratory gasps and the heart sounds never returned. Autopsy revealed nothing definite as to the cause of death. Microscopic examination of the liver was negative. The heart muscle was flabby but not markedly so.

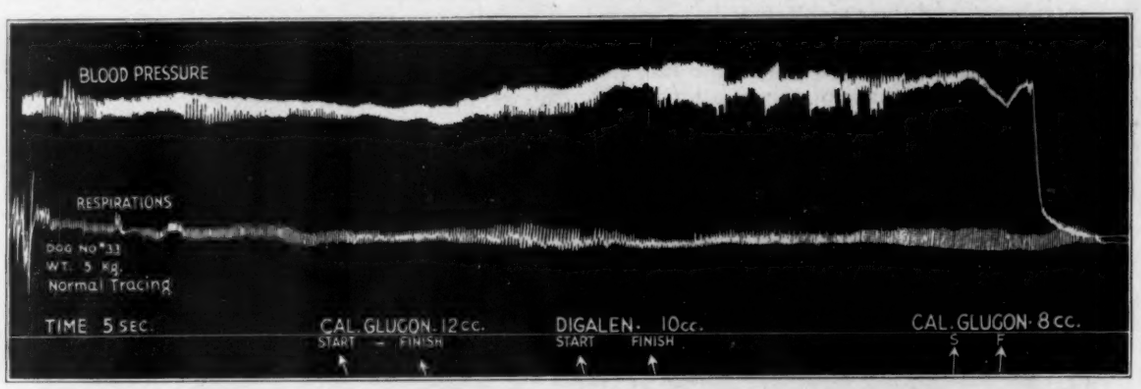

Fig. 3.—Calcium gluconate after digalen produced death as in figures 1 and 2. Before the administration of the second dose of calcium the digalen shows little additional effect.

COMMENT

Several causative factors at once suggest themselves in case 1: liver damage, autonomic instability, speed shock, and the synergistic action of calcium and digitalis. Although the liver at operation seemed soft and bled easily, at autopsy it was very flabby, and the liver function test showed 30 per cent retention, yet the pathologist's report hardly justifies classifying this case as a death due to hepatic insufficiency.

Autonomic instability is a vague term and while there are undoubtedly instances in which death is due to some powerful stimulation of the autonomic nervous system, there is too great a tendency to ascribe catastrophes to some such vague generalization. Every one is to some degree either vagotonic or sympathicotonic, and even in cases of recognized pronounced instability some additional stimulus is required to produce a fatality.

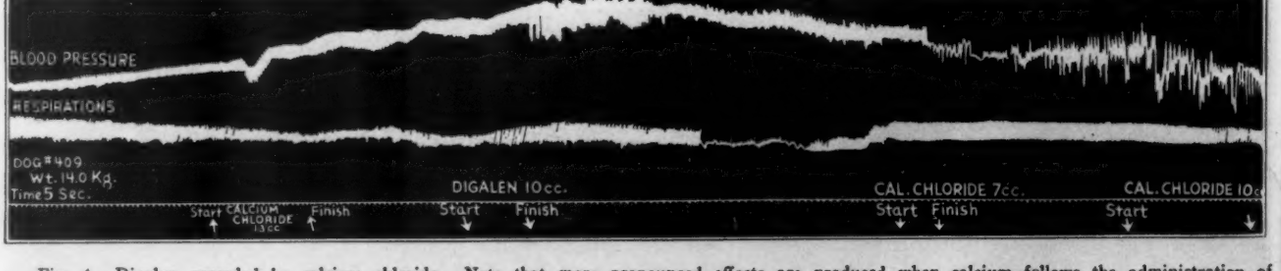

Fig. 4.—Digalen preceded by calcium chloride. Note that more pronounced effects are produced when calcium follows the administration of digalen.

Immediately following this catastrophe, we learned from the surgical resident that a similar case had occurred in the service of the late Dr. Harvey Righter:

CASE 2.—A. R., a white man, aged 55, admitted to the hospital Sept. 11, 1933, had fractures of both femurs. Roentgen examination showed decalcification of the bones of the pelvis, the upper thirds of both femurs and the lower two lumbar vertebrae, and decalcification of the bones of the head. The blood pressure was 130 systolic, 80 diastolic. There was general arteriosclerosis. The heart was apparently normal. There was clubbing of the terminal phalanges. A diagnosis of multiple myeloma or hyperparathyroidism was made. October 20, complete extirpation of the right lobe of the thyroid with the external capsule and possible parathyroid was performed. No parathyroid tumor was found. The patient returned from the operating room in fair condition. He received 1,470 cc. of fluid, including 140 minims (8.5 cc.) of digalen over a period of twenty hours. October 22 he developed a fine tremor of both hands, which was diagnosed as beginning tetany. Ten cc. of 10 per cent calcium chloride was injected intravenously, followed by the administration of physiologic solution of sodium chloride by means of the same needle; 50 cc. of the latter fluid had been given when the patient suddenly developed cardiac collapse. One cc. of epinephrine was given immediately, still with the same needle. After one or two minutes the heart action could no longer be discerned, so 1.5 cc. of epinephrine was injected intracardially without avail. Following this the respirator was applied with no response.

Physiologists and pharmacologists have long known that excess of calcium ions slows the heart rate and that large doses will stop the heart in systole. Macleod [2] states that perfused hearts may be kept beating for long periods of time in oxygenated Ringer's solution but that if the potassium ions are removed the heart stops in systole.

In 1931 Arnold Lieberman [3] reported the digitalis-like effects of calcium gluconate and cautioned against

2. Macleod, J. J. R.: Textbook of Physiology, ed. 7, St. Louis, C. V. Mosby Company, 1935.
3. Lieberman, A. L.: Comparative Studies on Calcium Gluconate and Other Calcium Salts, J. A. M. A. 97: 15-17 (July 4) 1931.

its intravenous use. In 1933 he [4] studied the effect of calcium gluconate and scillaren administered together. He chose scillaren because its action is practically identical with that of digitalis and because it is quite stable and uniform in its action. He found that if one-half the lethal dose of scillaren was injected first, it required approximately one-half the calculated amount of calcium gluconate to kill the animal. On the other hand, if one-half the lethal dose of calcium gluconate was administered first, it required slightly more than the calculated amount of scillaren (106 per cent) to kill the animal. He prefers to call this an "additive" rather than a "unilateral synergistic" effect, and he believes that it is due to two substances of similar action acting at dissimilar speeds. The action of calcium (intravenously) is almost instantaneous, while scillaren requires from twenty to thirty minutes to exert its full effect. In all his experiments the injections were given at the rate of 4 cc. per minute.

Lieberman also studied the rate of administration and found that if calcium gluconate was given very slowly, 0.5 cc. per minute, from nine to twelve times as much could be administered before the blood pressure was disturbed as when the drug was injected at the rate of 1 cc. per second.

Lloyd [5] in 1928 issued a warning against the intravenous use of calcium. This investigator injected 4 cc. of 10 per cent calcium chloride into his own antecubital vein, while connected to an electrocardiograph; he became cyanotic, dyspneic and then lost consciousness for five minutes. It required epinephrine intracardially, precordial massage and artificial respiration to resuscitate him. During this time there were no oscillations recorded on the electrocardiograph. He states, somewhat dryly, that there were no ill after-effects.

EXPERIMENTAL WORK

In an endeavor to confirm these results, we studied the effects of large but sublethal doses of calcium chloride, calcium gluconate and digalen, administered intravenously. Dogs from stock and others especially prepared were used. The carotid artery was cannulized and a pneumograph applied to the chest to record the pulse and blood pressure and respirations respectively. In the first group, ten normal dogs were used. Fifteen per cent of the calculated lethal dose of calcium chloride or gluconate produced only a transient slowing of the pulse and a slight drop in blood pressure. When this dose was preceded by therapeutic doses of digalen, i. e., sufficient to produce changes in the pulse or blood pressure, definite toxic effects were obtained. Periods of asystole, extrasystoles, marked slowing of the pulse and fibrillation were observed.

Following the administration of digalen, approximately 30 to 40 per cent of the calculated lethal dose of calcium gluconate was given. After a brief rise in blood pressure there was an abrupt and dramatic cessation of heart action and the blood pressure fell to zero. Similar results were obtained with calcium chloride (figs. 1 and 2).

On the other hand, after administration of sufficient calcium ions to produce definite circulatory changes (approximately 30 per cent of the calculated lethal dose), digalen in large doses gave no such results, and only when the full lethal dose of digalen was reached did the blood pressure fall and the circulation fail (figs. 3 and 4).

4. Lieberman, A. L.: J. Pharmacol. & Exper. Therap. **47**: 183-192 (Feb.) 1933.
5. Lloyd, W. D. M.: Brit. M. J. **1**: 662-664 (April 21) 1928.

A second group of five dogs was especially prepared by subtotal hepatectomy (an average of 80 Gm. of liver per dog being removed) to simulate liver damage in case 1. While these dogs were more sensitive to small doses of either calcium ions or digalen than normal dogs, it is questionable whether their general physical condition was not to blame, rather than especial sensitivity produced by liver damage. Even with administration of dextrose, these animals live only a few days after operation.

A third group of six dogs received chloroform anesthesia, one-half hour for two successive days, as a preliminary preparation, to produce liver damage. The results did not differ essentially from those obtained in normal animals.

We feel that the results of these experiments, in conjunction with the reports of other writers, justify the conclusion that the administration of calcium salts intravenously, following the administration of digitalis or one of its purified proprietary modifications, is a procedure of considerable hazard and may result in avoidable fatalities.

SUMMARY

1. Two deaths occurred following the intramuscular administration of digitalis and the intravenous injection of calcium gluconate chloride.

2. The manufacturers of calcium gluconate or chloride should preface their literature with a warning relative to the additive effect of calcium and digitalis when given simultaneously.

2008 Walnut Street.

OBLITERATIVE VASCULAR DISEASE

REPORT OF FIFTY-ONE CASES TREATED WITH PASSIVE VASCULAR EXERCISE

J. HERBERT CONWAY, M.D.
NEW YORK

The introduction of passive vascular exercise in the treatment of obliterative vascular disease has stimulated renewed interest in the care of patients suffering from symptoms due to impaired peripheral circulation. The idea of applying environmental pressure changes to an extremity in order to increase the flow of blood through it has been advanced by Reid and Herrmann [1] and by Landis and Gibbon.[2] One of the units for passive vascular exercise, designed by Herrmann, has been in use for the past year in the surgical and physical therapy departments of the New York Hospital. This unit differs from the apparatus designed by Landis and Gibbon chiefly in that the environmental pressure changes are produced slowly rather than suddenly. It is believed that rhythmic, gradual change from negative to positive pressure augments the flow of blood through an extremity just as effectively as does rhythmic sudden alternation in environmental pressure and does so without danger of injury to the intima of the vascular network, the vessels of which have already undergone some degree of sclerosis and thrombosis.

From the Department of Surgery of the New York Hospital and Cornell Medical College.

1. Herrmann, L. G., and Reid, M. R.: The Pavaex (Passive Vascular Exercise) Treatment of Obliterative Arterial Disease of the Extremities, J. Med. **14**: 524-529 (Dec.) 1933; The Conservative Treatment of Arteriosclerotic Peripheral Vascular Diseases: Passive Vascular Exercises (Pavaex Therapy), Ann. Surg. **100**: 750-760 (Oct.) 1934; Passive Vascular Exercise: Treatment of Peripheral Obliterative Arterial Diseases by Rhythmic Alternation of Environmental Pressures, Arch. Surg. **29**: 697-704 (Nov.) 1934.
2. Landis, E. M., and Gibbon, J. H.: Effects of Alternate Suction and Pressure on Circulation in the Lower Extremities, Proc. Soc. Exper. Biol. & Med. **30**: 593-595 (Feb.) 1933.

The skepticism with which this ingeniously devised machine was received by the profession here gave way to interest after the spectacular demonstration of its value in a classic case of embolus of the femoral artery one year ago. Since that time approximately ninety patients have been given passive vascular exercise; of these only fifty-one were observed a sufficiently long time and were given enough hours of treatment to permit a fair evaluation of the clinical effects of the exercise on the course of the disease. It is my opinion that this recently developed therapeutic measure has justified its inclusion in medical therapeusis. In defense of this belief I shall report the results obtained with it in different types of peripheral vascular disease. The principles and mechanism of the machine have been described by the inventor and a detailed account of the management, from an institutional point of view, of the patients treated at the New York Hospital is to be published elsewhere.[3]

TABLE 1.—*Distribution of Fifty-One Cases*

Diagnosis	Number of Cases
Arteriosclerosis obliterans (predominant involvement of major and secondary arterial pathways)	36
Sudden vascular occlusion	10
Thrombo-angiitis obliterans	4
Syphilitic endarteritis	1
Total	51

SELECTION OF CASES

With regard to the selection of cases it may be said that every patient was subjected to a complete examination before passive vascular exercise was instituted. The symptoms of the disease were carefully noted and the physical examination included palpation of the peripheral pulses, determination of the presence or absence of Buerger's sign, oscillometric studies, roentgenograms of the feet, electrocardiograms when indicated, and skin temperatures with a record of vasospastic indexes in certain patients. During the period of observation on which this study is based, passive vascular exercise was employed without other treatment save the inunction of the skin, the care of the nails and other simple measures advocated by Reid.[4] Dispensary and hospital patients were treated in the physical therapy department of the New York Hospital, their progress was observed by one physical therapist and they were daily attended by the same nursing staff. This centralization of treatment increased its efficient execution and simplified the evaluation of results.

CLASSIFICATION

The classification used by de Takáts[5] in a recent publication has been adopted in the presentation of these cases of peripheral vascular disease. Table 1 shows the distribution of the fifty-one patients according to this classification.

GROUP 1. — *Arteriosclerosis Obliterans.* — In this group there were thirty-six patients. Only those who were found to have predominant involvement of the major or secondary arterial pathways were selected from some seventy patients with the general signs of peripheral arteriosclerosis and the complaint of intermittent claudication or rest pain. The selection was based on preliminary examinations and on observations of the early response to treatment. Calcification of the large vessels as determined by roentgen examination and diminished or absent oscillometric pulsations were considered evidence of impairment of the major or secondary arteries of the extremity. Vasodilatation, as demonstrated by a rise in the surface temperature following interruption of the sympathetic pathways, was accepted as an indication that the arterioles and capillary bed had not undergone diffuse sclerosis. Passive exercise was given for a period varying from three to six months to the thirty-six patients constituting a group of cases, which according to opinions expressed by earlier writers could be considered ideally suited for this treatment. The results obtained are given in table 2.

Fourteen of the thirty-six patients were ambulatory and twenty-two were hospitalized for treatment. The ambulatory patients were given from one and one-half hours to two hours of treatment four times a week. Eleven, or 78.5 per cent, were relieved of major symptoms and could be classified as definitely improved. Rest pain was less severe, intermittent claudication came on less rapidly, toe joint mobility was increased, subcutaneous thickening was less evident, Buerger's sign became less strongly positive, and the patients exhibited a definitely improved morale. Of the twenty-two patients who were hospitalized for treatment, eighteen, or 81.8 per cent, were improved. Toe amputation was necessary in three cases in this series but the end result was one of general improvement in the condition of the extremity. In two cases skin grafts were applied to healing areas. Passive vascular exercise seemed to have a distinctly favorable effect on the healing of the grafts. In seven cases there were arteriosclerotic leg ulcers. Four of these responded well to the treatment; in three cases in which there was no improvement, amputation of the leg was carried out. The method adopted for selection of cases excludes a large number of arteriosclerotic subjects. It is believed that the high percentage of good results obtained in the cases reported here can be attributed to the careful choice of patients for treatment.

TABLE 2.—*Result of Treatment of Thirty-Six Patients Having Predominant Involvement of Major or Secondary Arterial Pathways*

Result	Number of Cases	Percentage
Improved (no amputation)	26	72.2
Improved (toe amputation)	3	8.3
Improved (major amputation)	0	0.0
Unimproved (no amputation)	3	8.3
Unimproved (toe amputation)	0	0.0
Unimproved (major amputation)	4	11.1
Total	36	100.0

The most spectacular result was obtained in a man, aged 67, who exhibited signs of disease of the coronary arteries and who also was completely invalided because of intermittent claudication. Excruciating leg pains became manifest when he walked a distance of only 12 feet. He could stand no longer than two or three min-

3. Valentine, M. R.: Am. J. Nursing, to be published.
4. Reid, M. R.: The Diagnosis and Treatment of Peripheral Vascular Diseases, Am. J. Surg. **24:** 11-35 (April) 1934.
5. de Takáts, Géza: Obliterative Vascular Disease: Preliminary Report of Treatment by Alternating Negative and Positive Pressure, J. A. M. A. **103:** 1920-1924 (Dec.) 1934.

utes before the same pain necessitated recumbency. His chief concern was the fact that he could not remain standing twelve minutes, the time needed to complete his daily shave. He was hospitalized and given two hours of treatment a day to both legs for a period of three months. Improvement was definite though gradual, and at the time of his discharge from the hospital he could walk 300 feet and could stand from twenty to thirty minutes without pain. For the past four months this patient has been without treatment, as he has returned to his home in a distant city. Subjective improvement has been maintained.

Several patients in this group were observed to experience pain during treatment especially during the negative pressure phase. This complaint was considered a contraindication to passive vascular exercise and was interpreted as evidence of fixed sclerosis of the arterioles. Three patients in the series experienced pain and in all three a radical amputation was later done for advancing gangrene and uncontrollable pain. Despite the fact that preliminary observations seemed to indicate that the smaller vessels were distensible, the amputated extremity showed advanced sclerosis not only of the major and secondary arteries but of the arterioles as well. This experience confirmed the opinion of other observers that vascular exercise is not beneficial in cases of advanced diffuse arteriosclerosis of the extremity. It was in one of these three patients that gas bacillus infection developed postoperatively in the midthigh amputation stump with a resulting surgical mortality. The patient, aged 64, was diabetic and had an open ulcer at the site of the toe amputation. The wound had been treated with dilute solution of sodium hypochlorite for many days and microscopic examination of smears from its surface showed no organisms. Passive vascular exercise had been given daily for two weeks in an effort to aid the healing of the wound, to control pain and to prevent the extension of gangrene. As stated before, the treatment caused the patient pain and was consequently discontinued. At the time of the amputation there was an unhealthy appearance of the skin in the midthigh region, as if the rubber cuff applied to the thigh had caused local trauma. By some observers, this slight trauma has been considered a possible contributory factor in the development of the Welch bacillus infection. Since this occurrence it has been demonstrated in this clinic that the rubber cuff, if properly applied, need not cause the slightest degree of pressure on the tissues of the thigh.

In my experience only a small number of patients with arteriosclerotic vessels of the lower extremity, who show good oscillometric readings, can be expected to respond favorably to passive vascular exercise. In cases showing poor oscillometric pulsations a plan has been adopted whereby a trial period of treatment, consisting of from eighteen to twenty-four hours, is given in twelve sessions. If symptoms are alleviated and the extremity shows even slight improvement, the course of treatment is extended. The results obtained in this group of patients have been very encouraging. The opinion is held that passive vascular exercise is the best available method for developing collateral circulation in an extremity the viability of which is threatened by advancing arteriosclerosis affecting chiefly the major and secondary arterial pathways. In only a few cases has an improvement in oscillometrics been observed.

GROUP 2.—*Acute Vascular Occlusion* (thrombosis, embolism, operative ligation of arteries).—There were ten patients in this group. In four the treatment was instituted shortly after the acute episode. In four, passive vascular exercise was given to aid in the establishment of collateral circulation, the first symptoms having occurred from seven to ten days earlier. The result of treatment was good in three of these. Amputation was done in the fourth. Two patients had suffered bilateral femoral arterial emboli, had been treated with passive vascular exercise as an emergency measure in another institution, and had been referred here for subsequent care, to aid in maintaining the collateral circulation that had developed.

Detailed reports of the four cases in which treatment was instituted shortly after the onset of the acute episode follow:

The first patient was a man, aged 50, who was admitted to the hospital because of embolic gangrene of the right leg with adjacent cellulitis. Guillotine midthigh amputation was performed and forty-eight hours after operation the patient developed the signs of embolus of the left femoral artery. Pulses were absent at the femoral, popliteal, dorsalis pedis and posterior tibial arteries. Oscillometric examinations showed no pulsations at all in the thigh, calf or foot. The leg very rapidly exhibited a mottled bluish white discoloration. Arterial embolectomy or amputation would undoubtedly have been resorted to had not the constant application of passive vascular exercise brought about the development of adequate collateral circulation. Three hours after the treatment was started, the color of the leg had returned to almost normal. After seventy-two hours of continued passive vascular exercise the extremity appeared normal and treatment was discontinued, though the femoral, popliteal, post-tibial and dorsalis pedis pulses still were not palpable. The left leg remained free from symptoms or signs of impairment of the circulation. The patient died suddenly two months later in an attack of coronary artery disease. A mural thrombosis was demonstrated at autopsy.

The second patient was a man, aged 79, who was admitted to the hospital ten days after the sudden onset of pain in the right leg. The patient complained of dizziness at the time of the onset of pain. Examination of the lower extremities at the time of admission to the hospital showed that there was a distinctly demarcated area of bluish discoloration involving the great toe and the toe adjacent to it on the right foot. The discoloration also extended up over the dorsum of the foot. The femoral arterial pulse was palpable on the right side, but no pulsations could be felt below that level. Oscillometric examination showed no evidence of pulsation. The skin temperature over the right great toe was 20 C. (68 F.). Pulses in the left leg were apparently normal. This case was interpreted as one of sudden thrombosis of the popliteal artery of the right leg. Ten hours of passive vascular exercise was given daily for ten days, after which the treatment was diminished to three hours daily. After twenty-one days the nutrition of the right leg seemed quite adequate and as good as that of the left, although the peripheral pulses were not palpable. The patient walked about without undue discomfort, and regional discoloration of the foot had disappeared.

The third patient was a man, aged 52, an Italian, who was admitted to the hospital because of multiple aneurysms involving the subclavian, axillary, femoral and popliteal arteries. The etiology of the aneurysms has not definitely been determined. The case will be reported elsewhere. Surgical intervention seemed indicated, as the left femoral aneurysm had enlarged rapidly and had shown a "weeping hemorrhage" through the stretched integument over its surface. To avoid the rupture of the aneurysm with possible fatal hemorrhage, the left common iliac artery was ligated. This was the only accessible proximal vessel, for the false aneurysmal sac had eroded into the pelvic area. At the close of the operation, pulsation in the aneurysm had ceased. The left foot had assumed a mottled, cyanotic appearance. The skin tempera-

ture had dropped. Passive vascular exercise was instituted at once and continued for three days. In this case the nutrition of the left leg was never markedly disturbed but it may be assumed that the passive exercises aided markedly in the rapid development of collateral circulation.

The fourth patient was a Jewess, aged 69, who was admitted to the hospital in a state of collapse. The diagnosis of mural cardiac thrombus was made. Shortly after admission the patient developed the classic signs and symptoms of embolus of the femoral artery. Passive vascular exercise was instituted at once and kept up continuously for three days; the circulation and nutrition of the leg improved promptly and seemed fairly well maintained throughout this time. However, the patient died suddenly from a pulmonary embolus. Permission for postmortem examination was not granted.

GROUP 3. — *Thrombo-Angiitis Obliterans.* — Four patients suffering from Buerger's disease were treated by passive vascular exercise. Two of these are reported as unimproved after three weeks of treatment. A third patient was a 34 year old Gentile who had failed to improve after two months of treatment; in fact, the degree of rest pain increased and a gangrenous area of the toe extended. This patient's condition later responded very well to daily intravenous injections of sodium citrate solution. In the fourth case, passive vascular exercise was resorted to in order to promote healing of pinch grafts placed over a granulating ulcer. After one month the grafts had healed well and treatment was discontinued. Passive vascular exercise was of doubtful value in this case.

GROUP 4.—*Syphilitic Endarteritis.*—Treatment was given to only one patient in this group, a man, aged 60, who had been given antisyphilitic treatment irregularly over a period of twenty years. Intermittent claudication of six weeks' duration with absence of peripheral pulsations in the left leg in a syphilitic subject justified the diagnosis of syphilitic endarteritis. Passive vascular exercise was instituted with some symptomatic relief and a slight increase in the oscillometric readings.

SUMMARY

1. Fifty-one cases of organic vascular occlusion of the lower extremity were treated with passive vascular exercise.

2. Experience with these cases supports the contention that treating organic vascular obstructions by an intermittent negative pressure environment is physiologically sound.

3. Passive vascular exercise, given with the apparatus of Hermann, caused improvement in 80.5 per cent of thirty-six cases of arteriosclerosis obliterans affecting the major and secondary arteries of the extremity. In nine of the ten cases of sudden vascular occlusion, the treatment given was effective. In four cases of thrombo-angiitis obliterans, no benefit was derived from passive vascular exercise. In one case of syphilitic endarteritis, the treatment was followed by moderate improvement.

4. In no case was there conclusive evidence that passive vascular exercise had, in and of itself, caused serious complications.

525 East Sixty-Eighth Street.

The Apex Beat.—If one places the patient in a good light it is as a rule comparatively easy to ascertain the position of the apex beat of the heart.—Dr. E. J. G. Beardsley, quoted by Fisher, Alexander: Aphorisms in Clinical Medicine, *Canad. J. Med. & Surg.* **77**:166 (June) 1935.

THE GORDON TEST FOR HODGKIN'S DISEASE

DAVID H. ROSENBERG, M.D.
AND
LEON BLOCH, M.D.
CHICAGO

In 1932 Gordon [1] reported the observation of a meningoencephalitic syndrome following the intracerebral inoculation of rabbits and guinea-pigs with a sterile suspension prepared from lymph nodes of typical Hodgkin's disease and in the ensuing year [2] suggested this procedure as a valuable diagnostic aid. Van Rooyen [3] and other English investigators [4] have corroborated this work and have affirmed the specificity of this test. From the reports in the literature (summarized in the accompanying table) the test has been applied in seventy-seven cases of Hodgkin's disease and has been found positive in fifty-six instances (77.9 per cent). Of 101 controls, consisting of normal lymph nodes and nodes showing carcinoma, sarcoma, lymphosarcoma, "pseudoleukemia," leukemia, tuberculosis, lymphoid hyperplasia and adenitis, the test was negative in ninety-eight cases (97 per cent), the three positive tests having been reported recently by Manson,[5] two of which were cases of tuberculous lymphadenitis and one was of lymphoid hyperplasia.

At this time we record our results with three cases of Hodgkin's disease and with three other lymph nodes used as controls (metastatic adenocarcinoma; aleukemic lymphadenosis; lymphoid hyperplasia). A summary of the literature is included in this report.

GORDON'S TEST

Method.—With aseptic precautions a lymph node is collected in a sterile test tube or petri dish. One or more grams is placed in a small sterile mortar under cover, and the rest of the node is kept in a refrigerator. The tissue is cut into very small pieces and is ground into a fine emulsion, nutrient broth of p_H 7.1-7.2 being added to make a 1:10 suspension. It is maintained in a refrigerator at from 0 to —4 C. for seven to ten days, and, before using, is tested for sterility aerobically and anaerobically. All lymph nodes in this study were obtained from live patients. If necropsy material is studied, the node should be removed aseptically, disinfected with absolute alcohol, and dipped into boiling water and then into ether. Phenol (0.5 per cent) may be added to the broth as a further precaution against contamination.[3a]

Of rabbits lightly anesthetized with ether, a short incision is made in the scalp and a tiny opening is drilled in the skull at a point 2 mm. lateral to the sagittal suture and 1.5 mm. anterior to the lambdoidal suture.[3a] Through this opening, 0.4 cc. of sterile suspension is slowly injected into the occipital lobe to a

From the Medical Service and the Nelson Morris Institute for Research, Michael Reese Hospital.

1. Gordon, M. H.: Rose Research on Lymphadenoma, Bristol, John Wright and Sons, Ltd., 1932, pp. 14, 48.

2. Gordon, M. H.: Remarks on Hodgkin's Disease: A Pathogenic Agent in the Glands and Its Application in Diagnosis, Brit. M. J. **1**: 641 (April 15) 1933.

3. Van Rooyen, C. E.: (*a*) A Biological Test in the Diagnosis of Hodgkin's Disease, Brit. M. J. **1**: 644 (April 15) 1933; (*b*) Recent Experimental Work on the Etiology of Hodgkin's Disease, ibid. **2**: 562 (Sept. 23) 1933.

4. (*a*) Van Rooyen, C. E.: Some Properties of the Encephalitogenic Agent in Lymphadenomatous Tissue, with Further Observations on Gordon's Biological Test in the Diagnosis of Hodgkin's Disease, Brit. M. J. **1**: 519 (March 24) 1934. (*b*) Ogilvie, R. F., and Van Rooyen, C. E.: A Case Demonstrating the Value of Gordon's Test in Hodgkin's Disease, Lancet **2**: 641 (Sept. 16) 1933.

5. Manson, M. H.: Biological Phenomena in Hodgkin's Disease, Minnesota Med. 18: 263 (April) 1935.

depth of about 3 mm. by means of a short fine needle. The skin is then sutured and the wound covered with collodion. In addition, 0.6 cc. of the inoculum is injected into the marginal ear vein. The rabbits are weighed before the inoculation and daily thereafter.

Positive Test.—After an incubation period of from two to six days (in one rabbit, sixteen days [1]), slight impairment of locomotion sets in, followed by a progressive spastic paralysis of the hind limbs. The gait becomes decidedly ataxic, and the animal may stagger and fall. In the more marked reactions, retraction of the head, opisthotonos and convulsive movements are observed. Van Rooyen [3a] reported nystagmus, grinding of the teeth and urinary and fecal incontinence in some animals. Progressive wasting and weakness, affecting particularly the hind quarters, are found in all cases. Death occurs frequently within three days to one month, usually in ten days. A larger number recover completely or pass into a chronic state.

At autopsy, gross examination reveals only a slight hyperemia of the meninges. Microscopically, usually little or no cellular infiltration in the brain is found, but with more active material Gordon noted a lymphocytic meningitis and perivascular lymphocytic infiltration in the brain substance. No inclusion bodies have been described.[4a] Cultures of the brain and meninges are sterile.

Summary of Results with Gordon's Test

Author	Hodgkin's Disease		Controls	
	Gordon Positive	Gordon Negative	Gordon Positive	Gordon Negative
Gordon [6]	30	5	0	67
Van Rooyen et al.[4a]	15	5	0	13
Ogilvie and Van Rooyen: J. A. M. A. **102**: 1842 (June 2) 1934	1	0	0	1
Dassen, Fisher and Fustinoni: Rev. Asoc. méd. argent. **48**: 1397 (Dec.) 1934	1	0	0	0
Manson [5]	9	6	3	17
d'Ovidio and Vucetich: Rev. Asoc. méd. argent. **49**: 372 (March) 1935	1	0	0	0
Bortolozzi: Diag. e. tec. di lab. **6**: 273 (April) 1935	3	1	0	0
Totals	60	17	3	98
Percentages	77.9	22.1	3.0	97.0

REPORT OF CASES

CASE 1.—J. S., a white man, aged 35, complained of generalized itching of the skin of four months' duration and a loss of 8 pounds (3.6 Kg.) in two weeks. Many larger and smaller, firm, discrete, movable, nontender lymph nodes were found in the supraclavicular fossae and in the right posterior cervical and submaxillary regions. A mediastinal mass was noted on roentgen examination. Herpes progenitalis was present. Biopsy of a cervical node revealed typical Hodgkin's disease.

Two rabbits were inoculated with a suspension that had been subjected to twenty-three days of refrigeration. Generalized weakness with slight spasticity of the hind limbs set in on the third day. Increasing ataxia and spasticity developed, and the animals became progressively weaker and lost weight. One rabbit died on the ninth day, the other on the tenth day after inoculation. Autopsy revealed hyperemia of the meninges. Sections of various parts of the brain showed no abnormal histologic manifestations. Aerobic and anaerobic cultures of the brain and meninges were negative.

Two control rabbits, inoculated with broth containing 0.5 per cent phenol, remained in perfect condition and gained in weight.

CASE 2.—C. S., a white youth, aged 17, complained of painless "swellings in the neck," which first appeared one year before and progressively increased in size. The supraclavicular, posterior cervical and right axillary nodes were firm, discrete, movable and considerably enlarged. Retromanubrial dulness was increased and widened. The spleen descended 2 cm. below the costal margin on inspiration. Blood examination revealed a moderate anemia. Roentgenograms of the chest showed a large mediastinal mass. Biopsy of a cervical node revealed typical Hodgkin's disease.

Two rabbits were inoculated with a suspension that had been refrigerated for eleven days. Except for a gain in weight, no effects were noted. Two other rabbits were inoculated with the same suspension after thirty-two days of refrigeration. Again the test was negative.

CASE 3.—H. H., a white woman, aged 22, presented the clinical picture of a typical Pel-Ebstein form of Hodgkin's disease, enlargement of the lymph nodes (left cervical and axillary) first appearing three months before hospitalization. Blood examination showed: erythrocytes, 2.68 million; hemoglobin, 47 per cent (Sahli); leukocytes, 5,400; differential formula, normal. Maximum temperature, 103.8 rectal. Chest roentgenograms were normal. Biopsy of an axillary node showed Hodgkin's disease.

Two rabbits were inoculated with a suspension that had been refrigerated for ten days. One rabbit had been too deeply anesthetized and died twelve hours later. The other developed weakness of the hind limbs on the third day, followed by spastic paralysis of the hind limbs, slight spasticity of the fore limbs, increasing ataxia and loss of weight. On the fifth day, cervical rigidity and convulsive seizures were noted. The animal died on the sixth day. Autopsy revealed a hyperemia of the meninges. The brain was normal on microscopic examination. Aerobic and anaerobic cultures of the brain and meninges were negative.

Controls: Case 1: Biopsy revealed adenocarcinoma. Two rabbits were inoculated with a suspension ten days old. No effects were noted after four weeks of observation.

Case 2: Biopsy revealed lymphoid hyperplasia. Two rabbits, inoculated with a suspension fifteen days old, showed no abnormal effects after four weeks of observation.

Case 3: Biopsy revealed aleukemic lymphadenosis. Two rabbits were inoculated with a suspension ten days old. No effects were noted.

PROPERTIES AND NATURE OF THE PATHOGENIC AGENT

The extensive studies of Gordon, supplemented by those of Van Rooyen, have yielded interesting data pertaining to the characteristics of the pathogenic agent. It has been found in an active state several weeks after refrigeration at 0 to —4 C., and for at least six months and as long as two years after desiccation. It is relatively thermostabile, resisting temperatures of from 65 C.[1] to 73 C.[4] for thirty minutes. When refrigerated, it resists 0.5 per cent phenol for at least two weeks and 10 per cent ether for seventeen days, although the activity is decreased by the latter disinfectant. It is not inactivated by freezing suspensions to —190 C. for ten minutes or tissue desiccates to —190 C. for twelve hours or by exposure to ten skin unit doses of x-rays. Alkalis such as sodium hydroxide, sodium bicarbonate, ammonia or ammonium carbonate may reduce its pathogenicity considerably. Its activity is greatest when the p_H of the broth medium is from 6.8 to 7.3, the optimum being attained with phosphate buffered broth of p_H 7.1.[4a] That the pathogenicity is increased by refrigeration, probably through autolysis of tissues, was an early observation of Gordon.[1] Later, Van Rooyen [4a] noted that its activity may be enhanced by maintaining the suspension at 37 C. or by intense freezing in liquid air followed by rapid thawing. The agent seems to be present in a more active state or in greater amounts during the early or acute stage of the disease. But no correlation between the varied pathogenicity in different cases and the presence of any particular type of cell appears evident. It has been suggested that perhaps the larger proportion of fibrous tissue accounts for the lesser amount or absence of the agent in more chronic cases.

Aerobic and anaerobic cultures of the tissues and suspensions, as well as of the brain, meninges and heart's blood of rabbits manifesting a positive test, have been consistently negative. Gordon [2] has reported the finding, on stained films, of "spherical granules" closely resembling Paschen bodies. This has been confirmed by Coles [6] recently. By a special technic, Van Rooyen [4b] has adequately demonstrated the filtrability (Berkefeld; Seitz) of the agent.

Attempts to transmit the pathogenic factor from one rabbit to another have been uniformly unsuccessful. Some rabbits, when completely recovered, were found to be immune to a second dose of the same material; [2] others, on the contrary, were more susceptible to reinoculation.[4a] In one rabbit, an immune serum capable of inactivating the pathogenic agent was obtained; [2] further studies of a like nature have not been recorded.

Thus far, the nature of the pathogenic factor is unknown. Gordon [7] considered it a virus, but the inability to transmit the experimental disease, as well as the observation of an increased susceptibility to reinoculation of recovered rabbits, does not support this hypothesis. The finding of neutralizing antibodies in the serum of a recovered rabbit is of interest and needs confirmation.

More recently, Friedemann and Elkeles [8] observed a clinical syndrome produced in rabbits by the intrathecal or intracerebral inoculation of normal human bone marrow, spleen or leukocytes, a syndrome which bore a striking resemblance to that following the use of suspensions of Hodgkin's nodes. They felt that these symptoms might be due to the action of the proteolytic enzyme of Jochmann and Lockemann and suggested its identity with the encephalitogenic factor in Hodgkin's disease. Studying this relationship, Mackenzie and Van Rooyen [9] concluded that the two factors are not identical. Further, they obtained no evidence indicating a proteolytic action on brain tissue by the agent in Hodgkin's disease. Van Rooyen [4a] suggested that the latter agent may be a neurotoxin, having a predilection for the brain tissue of rabbits and guinea-pigs. That the symptoms are not due to trauma seems well established.[3a]

COMMENT

Prior to the report of Manson,[5] the Gordon test appeared to be specific for Hodgkin's disease, for the presence of an encephalitogenic agent in normal bone marrow, spleen or leukocytes (pus) does not militate against the significance of a similar agent restricted to the lymph nodes of this disease. Hence the uniformly negative controls reported by other investigators prompts the question whether the two Gordon positive cases of tuberculous adenitis contained any pus and furthermore arouses interest in the ultimate course of the positive case of "hyperplasia."

Since about one fourth of the reported cases of Hodgkin's disease gave negative tests, and since the positive tests were more frequently observed in early or acute cases, the value of Gordon's test, if ultimately proved, seems to be limited to the diagnosis of early or histologically atypical cases. Further trial by different investigators is essential, however, before it will be possible to pass final judgment on its usefulness or specificity.

SUMMARY

1. Gordon's test was positive in two cases of early Hodgkin's disease and negative in a chronic case of one year's duration. Three abnormal lymph nodes, used as controls, gave negative tests.

2. A more extensive trial by different investigators is advocated, in order that the significance of the test may be properly evaluated.

310 South Michigan Avenue.

6. Coles, A. C., quoted by Gordon, M. H.: Recent Advances in the Pathology and Treatment of Lymphadenoma, Proc. Roy. Soc. Med. **27:** 1035 (June) 1934.

7. Gordon (footnotes 1 and 2).

8. Friedemann, Ulrich, and Elkeles, A.: Studies on the Etiology of Blood Diseases: A Pathogenic Agent in Normal Human Bone Marrow, Brit. M. J. **2:** 1110 (Dec. 16) 1933. Friedemann, Ulrich: The Pathogenic Agent in Normal Human Bone Marrow: Its Nature and Relationship to the Lymphadenoma Agent of Gordon, ibid. **1:** 517 (March 24) 1934.

9. Mackenzie, Ian, and Van Rooyen, C. E.: Relationship of Jochmann's and Other Enzymes to the Encephalitogenic Agent in Lymphadenomatous Glands, Brit. M. J. **1:** 406 (March 2) 1935.

THE TEMPERATURE OF THE SKIN SURFACE

WILLIAM BIERMAN, M.D.
NEW YORK

The temperature of the surface of the skin varies with the environmental temperature, with the temperature of the body and with conditions in the skin and in the structures lying beneath it.

VARIATIONS IN DIFFERENT REGIONS OF THE SKIN

In a comfortable environment, the temperature of the skin surface varies in different regions of the body. The temperature of the skin surface of the trunk usually varies between 33.5 and 36.9 C. (92.3 and 98.4 F.).[1]

The temperature of the skin surface is lower over superficial veins than it is over superficial arteries. It is lower over protruding and markedly curved parts, such as the nose, ears, fingers and toes.[2] The temperature of the skin is higher over muscles than over bone or tendons, over an active organ than over one at rest.[3] As a rule, stout persons (because of their thicker layer of subcutaneous fat) have a much lower skin temperature than thin ones.[4] The symmetrical areas are kept at about the same temperature. Usually these areas differ within 0.5 and 1 degree C.[4] I have observed even greater temperature differences of the skin surface of the symmetrical regions of the body. This would indicate that these areas may vary somewhat in their physiologic activity as well as in their configuration.

In general, the temperature of the skin covering the extremities is lower than that of the skin covering the head and the torso. The skin surface temperature of the extremities also shows the greatest fluctuations when the body is exposed to changing environmental temperatures. When there is the possibility that the body temperature may rise because of an increase in metabolism or because of the high temperature of the surrounding medium, the skin surface temperature of the extremities increases so that it may approach or actually reach the same temperature level as that which

From the Departments of Physical Therapy, Mount Sinai and Beth Israel Hospitals.

Aided by grants from the Council on Physical Therapy of the American Medical Association.

1. Benedict, F. G.: The Skin Temperature of Humans, Ergebn. d. Physiol. **24:** 594, 1925.

2. Pfleiderer, H., and Büttner, K.: The Physiologic and Physical Basis of Thermometry of the Skin, Leipzig, Johann Ambrosius Barth, 1935.

3. Kunkel, A. J.: On the Temperature of the Human Skin, Ztschr. f. Biol. **25:** 55, 1889.

4. (*a*) Cobet, R.: The Skin Temperature of Man, Ergebn. d. Physiol. **25:** 439, 1926. (*b*) Foged, J.: Normal Skin Temperature, Skandinav. Arch. f. Physiol. **64:** 251, 1932.

exists over the head and torso. On exposure to cold, the skin surface temperature of the extremities becomes much lower than that of the rest of the body. I have observed the skin surface temperature of the toe to go as low as 15 C. (59 F.) on exposure to cold and as high as 45 C. (113 F.) on exposure to heat.

While the temperature of the exterior of the body fluctuates widely, that of its interior varies between narrow limits. Indeed, it would appear as if the purpose of the marked variations in skin surface temperature is to keep the temperature of the interior relatively constant. There is a continual balancing between heat production and heat loss.

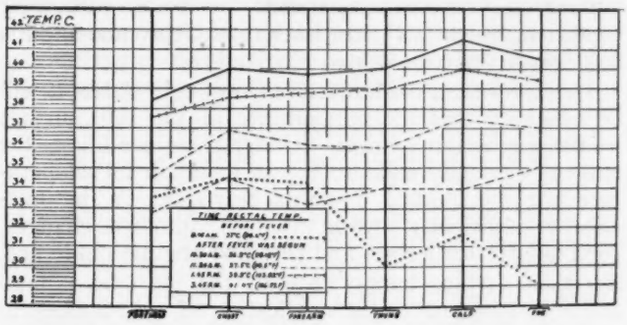

Chart 1.—Skin surface temperature in fever following the use of diathermy and photothermy for gonorrheal salpingitis in a woman, aged 28.

INFLUENCE OF AGE

Age has an influence on skin surface temperatures. With old age the temperature becomes lower. Basal metabolism diminishes with increasing years.[5] In children, Kunkel[3] and Talbot[6] state that skin surface temperatures are lower than in the adult, while Cobet[4] describes higher temperatures. The heat regulating apparatus is not fully developed at birth and is almost completely absent in the premature infant.[7] The temperature of the skin of the premature infant, as well as that of the body, is affected directly by the surrounding temperature and to a greater extent than it is in the normal infant.

EFFECT OF CHANGES IN METABOLISM

The close connection between the temperature of the extremities and the heat dissipating mechanism is shown by the fact that under constant environmental conditions a simple linear relationship is found between the temperature of the great toes and the basal heat production per unit of surface area.[8] There is a diurnal variation in the skin surface temperature of the feet.[9]

Muscular exercise influences the temperature of the skin. During the first few minutes of exercise the temperature of the skin falls and later rises.[10]

Psychic factors may influence the temperature of the surface of the skin. In cases of hyperemia of the face due to excitement, there occurs a rise in the skin surface temperature over the cheeks.[11]

Cohn and Steele[12] noted the occurrence of fever in a case of heart failure in which no pathologic condition other than cardiac was present to account for the temperature elevation. A possible explanation which they offer is that the elevation of the temperature of the interior of the body is due to a slowing of the blood flow to the surface as well as to other parts.

VARIATIONS DURING FEVER

In fever the temperature gradient of the skin surface that normally obtains disappears, so that the temperatures of the various parts of the skin surface of the body reach a more or less common level. When fever is produced by physical means through the application of heating energies, the temperature gradient of the skin surface disappears even before the internal temperature (as judged by the rectal thermometer) begins to rise. As the body temperature becomes more elevated the skin surface temperature rises and at high temperatures such as, for example, around 106 F. (41.1 C.), the temperature gradient may become reversed; i. e., the temperature of the skin surface of the toes may go higher than the temperature of the skin surface of the torso (chart 1).

When the body supplies its own energy to create a fever (as after the intravenous injection of typhoid vaccine) the skin surface temperatures, particularly the temperature of the toes, may remain as they were originally or they may even go lower, while the internal temperature is being elevated. This is the period in which the subjective sensation of a chill occurs. After the systemic temperature elevation has become established, the skin surface temperature rises. During defervescence of the fever the skin surface temperature of the toes may remain comparatively high, so as to encourage the loss of heat to the environment. If the objective of a therapeutic fever is to increase the blood flow in a case of insufficient peripheral circulation, it would seem more rational to produce fever by physical means, since the initial stage of vasoconstriction is avoided.

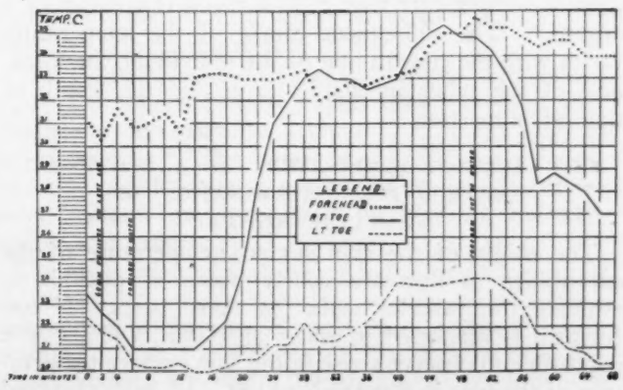

Chart 2.—Effect of forearm in hot water (43.5 C.) and left leg constricted in cuff with pressure of 60 mm. of mercury in a normal woman, aged 21.

VARIATIONS IN HEAT TOLERANCE IN DIFFERENT PARTS OF THE BODY SURFACE

There is a marked difference in the heat tolerance of various parts of the surface of the body. The extremities, which are normally more responsive to changes in systemic temperature, also appear to possess greater

5. Benedict, F. G.: Basal Metabolism: II. An Index of Vital Activity, Carnegie Institution of Washington, News Service Bull. **11**: 99 (April 5) 1931.
6. Talbot, F. B.: Skin Temperature and Its Relationship to the Heat Regulation of the Body, Klin. Wchnschr. **12**: 809 (May 27) 1933.
7. Talbot, F. B.: Skin Temperatures of Children, Am. J. Dis. Child. **42**: 965 (Oct., part 2) 1931.
8. Maddock, W. S., and Coller, F. A.: The Rôle of the Extremities in the Dissipation of Heat, Am. J. Physiol. **106**: 589 (Dec.) 1933.
9. Kirk, E.: Investigation on the Influence of Normal Sleep on the Temperature of the Foot, Skandinav. Arch. f. Physiol. **61**: 71 (Jan.) 1931.
10. Burton, A. C.: New Technic for the Measurement of Average Skin Temperature Over Surfaces of the Body and the Changes in Skin Temperature During Exercise, J. Nutrition **7**: 481 (May) 1934.
11. Reichenbach, H., and Heymann, B.: Investigation on the Effects of Climatic Factors on Man, Ztschr. f. Hyg. u. Infektionskr. **57**: 1, 1907.
12. Cohn, A. E., and Steele, M. J.: Unexplained Fever in Heart Failure, J. Clin. Investigation **13**: 853 (Nov.) 1934.

sensitivity toward an increase in their normal temperature; i. e., they have the lowest tolerance temperatures. In general, those portions of the body surface which have the lowest tolerance temperatures are also characterized by their ability to endure heating for the longest periods. In fact, the tolerance time and the tolerance temperature rise are approximately in inverse ratio. The ability of the skin of the forehead, of the feet and of the hands to tolerate heat better than other parts of the skin surface of the body and yet maintain lower temperatures may possibly be explained by increased sweating of these parts, by the presence of

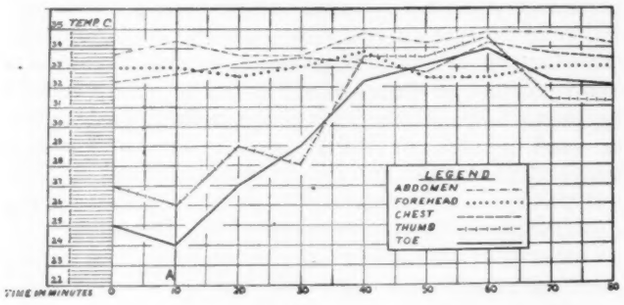

Chart 3.—Reaction to acetylsalicylic acid (10 grains, or 0.6 Gm.) of a normal woman, aged 26: *A*, acetylsalicylic acid.

arteriovenous anastomoses, and by the greater number of thermal nerve endings.[13]

EFFECT OF COLD

When cold is applied to a local area, the skin surface temperature in that area falls quickly. On the application of an ice bag, for example, the skin temperature may be diminished 20 degrees C. (36 degrees F.) within a quarter of an hour and may reach a minimal 5 to 6 C. (41 to 42.8 F.) in from forty to sixty minutes. By conduction the effect may extend to the underlying tissues.[4n] On immersion of the body in cold baths, the internal temperature may at first rise a few tenths of a degree.[14] The subsequent course of the temperature varies with the constitution of the individual, the thickness of the subcutaneous fat layer and the length of time of immersion.

SKIN SURFACE TEMPERATURE AS A DIAGNOSTIC METHOD FOR DETERMINATION OF VASCULAR STATUS

The ability of the skin surface temperature of the extremities to fluctuate widely makes it possible to evaluate the vascular status of these parts. If one forearm is immersed in water at 110 F. (43.3 C.) it is possible to observe a rise in the skin surface temperature of the toes in a normal subject.[15] I have observed that in a normal subject the temperature of the skin of the great toe rises to approximately the same level as the skin surface temperature of the forehead. This rise in the skin surface temperature of the toe is due to the activity of the thermoregulatory mechanism in its effort to resist the elevation of body temperature that would occur if the body did not utilize its ability to increase heat dissipation by augmenting the vascular flow to the extremities.

If this flow is interfered with, as by causing a constriction of the normal leg with a cuff inflated to the equivalent of 60 mm. pressure, no rise or a much restricted one occurs in the temperature of the toes (chart 2). The inability of the toe temperature to rise under these circumstances also occurs when the circulation has been restricted by some pathologic condition, such as arteriosclerosis, thrombo-angiitis obliterans, varicose veins or embolism.

If the forearm is immersed in very cold water, it will be observed that the temperature of the skin surface of the toe becomes lower. Under these conditions the body is evidently endeavoring to maintain its temperature level by shutting down on heat loss. In the presence of sufficiently severe vascular pathologic changes, such as arteriosclerosis and thrombo-angiitis obliterans, the skin surface temperature of the toe does not go lower in response to the application of cold applied to the forearm.

When air heated to about 100 F. (37.8 C.) is applied by means of a thermostatically controlled heating hood, it is observed that the skin surface temperature of the toe rises to about the same level as the skin surface temperature of the forehead. When the normal leg is constricted by means of a cuff inflated with air to a pressure of 60 mm. of mercury so as to embarrass the venous return, the toe temperature rises more slowly and does not reach as high a level as in the unconstricted leg. In cases of venous disturbance, as in varicose veins and phlebitis, the skin surface temperature response to direct heating is lower than in the normal. In cases of arteriosclerosis, on the other hand, the skin surface temperature of the toe frequently rises above that of the forehead. In thrombo-angiitis obliterans, because the pathologic processes involve both veins and arteries, the temperature response of the toe may resemble that of the normal. When the pathologic process primarily involves the veins (as in varicosities)

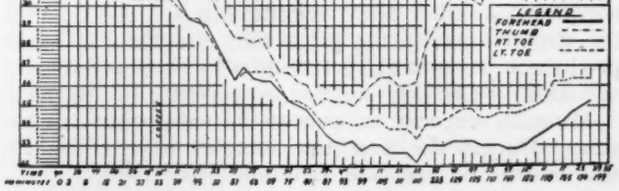

Chart 4.—Effect of coffee (two cups) on a normal man, aged 20.

or the arteries (as in arteriosclerosis), it is possible to make the diagnostic differentiation by observing the changes in the temperature of the skin surface of the toe when the leg is exposed to heat directly.

The direct application of cool air to the lower extremities rapidly causes a drop in the skin surface temperature of the toes. This response is delayed and diminished in the presence of vascular disease, such as in arteriosclerosis and thrombo-angiitis obliterans.

The application of cold and heat locally and at a distance puts the vascular machinery "under a load," as it were, permitting one to gain a still more definite idea of the integrity of the peripheral circulation.

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14. Gibbon, J. H., Jr., and Landis, F. M.: Vasodilatation in the Lower Extremities in Response to Immersing the Forearms in Warm Water, J. Clin. Investigation **11:** 1019 (Sept.) 1932.

15. von Liebermeister, C.: Handbuch der Pathologie und Therapie des Fiebers, Leipzig, 1875.

THE USE OF SKIN TEMPERATURE IN DIFFERENTIATING BETWEEN ORGANIC OCCLUSION AND VASOSPASM

Observations of changes in the skin surface temperature of the toes in differentiation between vasospasm and organic occlusion have been made by several men. It has been shown that the removal of the sympathetic vasoconstrictor influence caused an elevation of the skin surface temperature of the extremities when vasospasm existed but not when occlusive organic disorder was the cause of the vascular difficulties.[16] The sympathetic vasoconstrictor influence may be removed by the induction of anesthesia, either general, spinal or local.[17]

THE USE OF SKIN TEMPERATURE AS A DIAGNOSTIC PROCEDURE IN CONDITIONS OTHER THAN PERIPHERAL VASCULAR DISEASES

The temperature of the skin may be used as an aid in the diagnosis of conditions other than those of peripheral vascular diseases.

The temperature of the skin surface has been measured for its diagnostic value in several neurologic conditions. It has been found possible to differentiate between fever of central origin and other types of fever by noting the difference in the temperature of the skin surface.

There is a relationship between vascular supply and the psychic centers, as indicated by experiments in which the surface temperature of circumscribed skin areas was raised by suggestion in hypnosis.[18]

I have noted that while high skin surface temperatures are found in the region of joints during the presence of an acute arthritis, low surface temperatures occur over the joints in chronic arthritis. Others have made similar observations.[19]

Information concerning the temperature of the skin surface may prove of value to the dermatologist. Thus observations of the surface temperature in areas of alopecia areata show no essential difference between these areas and the adjoining normal skin, indicating that this condition is not due to restriction of local blood supply.[20] Changes in skin surface temperature occurring in leprosy have been described.[21]

SKIN SURFACE TEMPERATURE CHANGES AS A METHOD FOR EVALUATING THE THERAPEUTIC INFLUENCE OF DRUGS AND PHYSICAL MEASURES

The local skin surface temperature is affected by the rate of capillary circulation.[22] This permits the evaluation of the effects of foods, drugs and other measures on the peripheral circulation simply by noting the changes in skin surface temperature. By observing changes in the skin surface temperature of the body, particularly of that part which goes through the greatest range of change—the toe—it has been learned, for example, that acetylsalicylic acid causes vasodilatation (chart 3). This may explain the value of this drug and of other similar acting drugs as antipyretics.[23] It may also explain the subjective relief that this drug appears to afford sufferers from chronic arthritis (in which condition endo-arterial changes in the blood vessels supplying the joint have been described), and those suffering from peripheral vascular disease.

The skin surface temperature reaction to tobacco has been described. In many individuals, smoking causes peripheral vasoconstriction as evidenced by a lowering of the surface temperature.[24]

Numerous studies have been made to show the effect of various physical therapeutic measures, such as the application of hot and cold baths, photothermy, diathermy, and short wave currents.[25]

Alcohol causes a peripheral vasodilatation, as evidenced by the rise in skin surface temperature of the toe.[26] I observed that the rate of rise is faster after the drinking of whisky than of wine.

The ingestion of coffee as a rule causes a definite lowering of the skin surface temperature of the toe (chart 4). In my experiments the coffee was administered at a temperature of about 37.5 C. (99.5 F.).

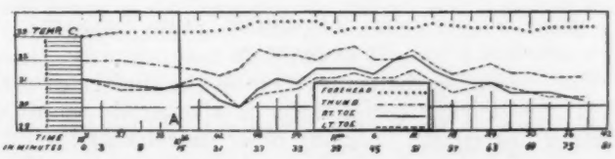

Chart 5.—Effect of decaffeinated coffee (two cups) on a normal man, aged 20: *A*, decaffeinated coffee.

Decaffeinated coffee does not produce this change (chart 5). Caffeine, if administered hypodermically in the form of caffeine with sodium benzoate, or by mouth as caffeine citrate, causes a decided lowering of the skin surface temperature of the toe.

Thyroid increases the temperature of the skin surface of the extremities. Amyl nitrate does likewise, while pilocarpine decreases the temperature of the skin of the extremities.[2] The latter drug acts by stimulating the sweat glands, causing cooling by evaporation of the sweat without any preceding increase of the skin surface temperature.[4a]

The application of tincture of iodine and of mustard oil causes an initial lowering of the skin surface temperature at the site of application, followed by an increase of from 1 to 3 degrees C., lasting for from five to ten hours. If active hyperemia is produced by rubbing, the skin surface temperature rises according

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26. Miles, W. R.: Alcohol and Human Efficiency: Experiments with Moderate Quantities and Dilute Solutions of Ethyl Alcohol on Human Subjects, pub. 333, Carnegie Institution of Washington, 1924. Cook, E. N., and Brown, G. E.: The Vasodilating Effects of Ethyl Alcohol on the Peripheral Arteries, Proc. Staff Meet., Mayo Clin. **7**: 449 (Aug. 3) 1932.

to the strength of the stimulus, to the irritability of the individual, and to the initial skin temperature.[4a]

It may be of interest to evaluate the effect of other physical procedures and the effect of the ingestion of various food and drug substances on the peripheral circulation. While this objective evidence may not be the sole guide for the application of various therapeutic measures, it does give a definite standard by means of which these measures may be judged.

EFFECT OF ENVIRONMENTAL TEMPERATURE, HUMIDITY AND AIR MOTION

Observations of skin surface temperatures should be made in a temperature-controlled room, since the factors of room temperature, humidity and rate of air motion influence the temperature of the skin.

Systematic investigations on the relationship between room temperature and skin temperature have been made.[27] A positive correlation has been described between skin temperature and air temperature, the skin temperature increasing at the rate of 0.27 C. per degree centigrade of room temperature, with a corresponding shift of 3 per cent of the total heat from radiation and convection to the latent heat of evaporation.[28] At the higher room temperatures, the physiologic action of sweating cools the skin.[29]

Other things being equal, heat loss is proportional to the square root of the velocity of air motion.[30]

INSTRUMENTS FOR MEASURING SKIN SURFACE TEMPERATURE

For measuring the temperature of the surface of the skin, the mercury thermometer is a relatively unsatisfactory instrument. Lacking other instruments for the purpose, however, it may be used, fitted with a wedge of cork to prevent loss of heat to the air,[31] or in a special shape with the lower portion flattened and bent at right angles to the stem. The mercury thermometer is objectionable because of its slowness in recording and because covering the surface distorts the temperature of the region.

The development of the thermocouple has simplified the study of skin surface temperatures. This instrument depends on the production of a minute electric current when the joined ends of two dissimilar metals are heated. For routine purposes I have found that one constructed with an automatically compensated cold junction is the most satisfactory. Resistance thermometers for the same purpose have been described, and also instruments for the measurement of the radiation of heat from the body's surface.[32]

With the exception of the studies made in recent years, but few investigations have been conducted during the century that has passed since the development of an instrument suitable for the measuring of skin surface temperatures. It may well be that the relatively simple and accurate measuring instruments now available may help to usher in a period of intensive research, which should be fruitful in clarifying the diagnosis and the treatment of peripheral vascular as well as many other diseases.

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OBSERVATIONS ON THE TREATMENT OF CHRONIC ARTHRITIS WITH VITAMIN D

EMIL G. VRTIAK, M.D.
AND
ROSS S. LANG, M.D.
CHICAGO

Our interest in vitamin D therapy was stimulated by C. I. Reed, Ph.D., assistant professor of physiology, University of Illinois College of Medicine, who observed improvement of symptoms in two patients with arthritis whom he had treated for hay fever with vitamin D concentrate. One of these patients was a man aged 46 and the other, a woman aged 47. The former had suffered with chronic atrophic arthritis for seven months and the latter had suffered with it for fifteen years in addition to hay fever.

We have treated twenty cases of atrophic arthritis with daily doses of viosterol of from 150,000 to 250,000 U. S. P. X units of vitamin D.[1] Ten patients were men and ten were women. The youngest patient was 23 years of age and the oldest was 60. Fifty-five per cent of the patients were between 40 and 60 years of age.

Twelve, or 60 per cent, of the cases showed a varied degree of improvement, as shown in the accompanying table. Eight, or 40 per cent, did not improve.

The average age of the patients in the markedly improved group was 43 years; in the moderately improved, 43⅓ years; in the slightly improved, 49 years; of those in whom no improvement was noted, 41 years.

The average duration of the disease in the improved group was twelve years; in the moderately improved, two and three-fourths years; in the slightly improved, six years; in the not improved, ten years.

The average length of treatment in the improved group was three months; in the moderately improved group, ten months; in the slightly improved, seven and three-fourths months; in the not improved group, three and one-sixth months.

Of sixteen patients on whom blood counts had been made before treatment, five had red blood cell counts under 4,000,000. The hemoglobin in these five cases was 50, 57, 68, 75 and 90 per cent. Their average weight was 113 pounds (51 Kg.). Of these anemic and undernourished patients, four showed no improvement and one showed moderate improvement.

X-ray studies of the joints of the patients previous to treatment showed bone atrophy. Reexamination in five cases following treatment did not show any appreciable change in bone density.

From the Department of Medicine, Rush Medical College, University of Chicago.

1. The viosterol, 850,000 units (U. S. P. X) of vitamin D per gram, was supplied by Mead Johnson & Co.

Dreyer and Reed [2] found an excess of calcium deposits in most of the tissues in dogs following the administration of toxic doses of vitamin D. When administration was stopped and the animals were allowed to recover, the tissues showed calcium contents within the normal range.

Shelling and Jackson [3] found no excessive calcium deposits in tissues of human patients brought to autopsy after long periods of treatment with viosterol. They used relatively small doses.

Nausea developed in all our patients. In several, frequency of urination and nocturia developed.

SUMMARY AND CONCLUSION

Twenty patients with chronic atrophic arthritis were treated with massive doses of vitamin D.

Two patients showed marked improvement, six moderate improvement, four slight improvement and eight no improvement. These results were not unlike those obtained with a number of other methods of treatment or with methods used to produce only symptomatic relief.

Undernourished and anemic patients showed the least improvement.

Roentgenograms in five cases before and after treatment showed no change in bone density.

Nausea developed in all patients; in a few, frequency of urination and nocturia.

This series of cases is too small for an estimate to be made of the value of vitamin D in the treatment of chronic arthritis but is sufficient to indicate a conservative attitude toward this form of treatment.

1758 West Harrison Street.

Results of Treatment with Vitamin D in Twenty Cases

	Number	Ages	Duration of Disease, Years	Length of Treatment, Months	Blood Count: Red Blood Cells, Thousands	Blood Count: White Blood Cells	Blood Count: Hemoglobin
Markedly improved	2	30	4	2	4,480	7,400	0.85
		56	24	4	4,100	9,250	0.88
Average.....		43	12	3			
Moderately improved	6	37	1	3½	5,600	6,500	0.90
		39	1½	7½	4,780	6,000	0.60
		44	2	12	3,350	6,200	0.68
		45	2	12	4,320	7,400	0.84
		46	4	12	4,500	9,800	0.60
		49	6	13	4,850	9,500	0.80
Average.....		43½	2¾	10			
Slightly improved	4	28	2	4	4,770	7,450	0.94
		44	3	7	4,700	6,800	0.92
		57	6	8	4,800	13,800	0.85
		66	13	12			
Average.....		49	6	7¾			
Not improved	8	23	1½	1	4,400	6,800	0.85
		28	2	1½	3,824	6,500	0.50
		29	4	2	3,760	.....	0.90
		39	7	3			
		44	8	3			
		47	9	3½	3,550	13,500	0.75
		57	14	5½	3,400	8,400	0.57
		60	35	6			
Average.....		41	10	3⅛			
Total.....	20						

2. Dreyer, Irving, and Reed, C. I.: The Treatment of Arthritis with Massive Doses of Vitamin D, Arch. Phys. Therapy **16:** 537-540 (Sept.) 1935.

3. Shelling, D. H., and Jackson, Deborah: Calcium and Phosphorus Studies: Effect of Standardized Viosterol on Human Tissues: Necropsy Report of Thirteen Cases Showing no Tissue Damage, Bull. Johns Hopkins Hosp. **55:** 314 (Nov.) 1934.

Clinical Notes, Suggestions and New Instruments

POISONING BY CHICHESTER'S PILLS

LYLE MOTLEY, M.D., AND J. L. McGEHEE, M.D.,
MEMPHIS, TENN.

Though abortifacients are widely advertised and by inference extensively used, reports of serious toxic results from their use are rare.

REPORT OF CASE

History.—A white married woman, aged 22, entered the hospital with the complaint of epigastric pain and vomiting of two and a half days' duration. She had not voided urine for seventy-two hours.

Examination.—The patient was obviously ill. Her face was pale and somewhat puffy. General examination was negative except for diffuse tenderness of the abdomen, most marked in the lower part bilaterally. Pelvic examination showed blood coming from the cervix, which was gaping open, soft and edematous. The uterus was enlarged to the size of an eight weeks pregnancy. No masses were palpable on either side.

Blood examination revealed red cells 3,000,000, hemoglobin 6 Gm. per hundred cubic centimeters, leukocytes 18,600, polymorphonuclear neutrophils 94 per cent, lymphocytes 6 per cent. A catheter obtained 7 ounces (200 cc.) of dilute blood and it was stated by the patient and her husband that this was the first fluid that had left her bladder in seventy-two hours.

After examination the patient admitted having introduced the temporal part of horn rimmed driving glasses into her vagina and as far as she knew into the cervix. This was done several times the first seven days previously and the last time the night before the onset of symptoms two and a half days previously. On the last occasion she felt as though "something gave way" and, in view of the anuria and the large amount of blood obtained from the bladder, a cystoscopic examination was done by Dr. T. D. Moore, considering the possibility that the bladder had been penetrated. The bladder was found intact and shortly afterward the laboratory reported a blood nonprotein nitrogen of 250 mg. per hundred cubic centimeters.

Further questioning brought forth the admission that she had taken twenty-eight Chichester pills and one box of Snyder's pills, the exact time of taking not being remembered by the patient, but within the past few days.

Apparently the uterus was draining freely, the temperature and leukocytosis were not excessive and, except for cleansing douches, no local measures were used, the outcome of the obvious severe nephritis being awaited.

Subsequent Course.—Mild stupor appeared shortly after the patient was admitted and cleared to a large extent within forty-eight hours. The temperature did not go above 99.5 F. and after the first seven days did not go above normal. A blood transfusion was given and adequate attention to the physiologic needs regarding water balance, calories and minerals being given intravenously. The leukocytes never went above the original figure and the red cells gradually rose to 4,500,000, with hemoglobin of 12 Gm. per hundred cubic centimeters. The blood nonprotein nitrogen rose to 444 mg. with creatinine as high as 10.22 mg. per hundred cubic centimeters. At this time spontaneous bleeding from the gums appeared and investigation of the blood showed no alteration in coagulation factors. Thirty cc. of urine was obtained by catheter the first twenty-four hours, the specimen being quite bloody but not as much so as the original. The urinary output gradually increased, even while the blood nitrogen was rising, and fourteen days after admission amounted to 1,080 cc. with a fluid intake of 1,500 cc. on the day that the blood nitrogen was the highest. This urine showed a specific gravity of 1.008, a faint trace of albumin, numerous pus cells and from 15 to 20 red cells to the high power field. At no time did the blood pressure exceed 112 systolic, 70 diastolic. The eyegrounds remained normal at all times and no definite edema ever appeared. Her mental condition cleared rapidly after the first thirty-six hours, even in the face of a rising blood nitrogen.

From the Departments of Medicine and Surgery, University of Tennessee College of Medicine.

Nausea was the only symptom complained of, and the patient was unable to retain anything in her stomach for more than an hour after ingestion.

About the time the urine output became normal, the nitrogen began to fall rapidly and within two weeks was at a normal figure. All symptoms had disappeared and the patient was considered clinically well. She was seen in the office a month after discharge and was still apparently normal.

Pelvic examinations showed no reason for surgical intervention at any time and when the patient left the hospital the uterus was undergoing involution and no discharge was present.

COMMENT

The Bureau of Investigation of the American Medical Association states that Chichester's Diamond Brand Pills contain as the chief medicinal constituents aloes and iron sulfate and that tests for the presence of black hellebore, tansy, pennyroyal, savin and certain other reputed abortifacients resulted negatively in each case. Essentially the same results were obtained by a government chemist in connection with a suit involving interstate shipment of the pills.[1]

In discussing the action on the kidney of the reputed abortifacients, Sollmann[2] states that aloes and the pentoside alloin produce tubular nephritis with increased or diminished urine containing proteins, leukocytes, casts and blood. In the case here reported, it was evidently the action of aloes that produced the renal lesion.

In response to inquiry, the Bureau of Investigation writes that the Snyder Products Company of Chicago markets a product under the name of "S. P. New Discovery Relief Compound for Unnatural Delayed Periods." The bureau did not know the composition of the pills, as inquiries have been too few to warrant investigation and analysis. It is assumed that they contain some combination of aloes, tansy, savin, arbor vitae, pennyroyal or cottonroot bark, as they are the substances commonly supposed to have abortifacient properties.

In discussing other supposed abortifacients, Sollmann states that arbor vitae and tansy are oils similar to turpentine but more toxic. Poisoning has occurred from their use as abortifacients, with hematuria. Six drops of these substances is said to have produced toxic effects. In no book on pharmacology is mention made of the effects of pennyroyal on the kidneys.

While tansy is popularly supposed to have abortifacient properties, no mention is made of this in any reference, but the active constituent is thugon ($C_{10}H_{16}O$), as with arbor vitae, and and has the same toxic effect. Cottonroot bark contains various resins but in no reference is there any mention of action on the kidneys.

It must be assumed that, if Snyder's pills played any part in the toxic nephritis in this case in addition to the aloes in Chichester's pills, they must contain aloes, arbor vitae, tansy or a combination of them.

899 Madison Avenue.

1. Notice of Judgment 15052, Southern District of New York, issued in December 1927.
2. Sollmann, Torald: Manual of Pharmacology, Philadelphia, W. B. Saunders Company, 1928.

DIPHTHERITIC MENINGITIS: REPORT OF A CASE AND REVIEW OF THE LITERATURE

F. G. CARLSON, M.D., AND H. W. MORGAN, M.D.
MASON CITY, IOWA

The extreme rarity of meningitis with true diphtheria bacilli as the etiologic agent leads us to believe that the occurrence of such a case is worthy of a report. A very careful search of all the available English literature fails to reveal any similar case. There are, however, a number of cases in the English literature in which a diphtheroid organism or an organism resembling the diphtheria bacillus in some particulars has been reported.

Miller and Lyon[1] reported a threadlike diphtheroid organism as a causative agent in meningitis in an infant.

Kessel and Romanoff[2] of New York reported a general infection with the diphtheroid bacillus complicated by a diphtheroid meningitis. A blood stream infection was present in their case.

Dr. Dick[3] of Chicago reported a case of meningitis due to a diphtheroid organism which showed no polar bodies and was not pathogenic to guinea-pigs except on intravenous inoculation.

One case of diphtheritic meningitis was reported by Moritz[4] in the French literature, in which he found both the meningococcus and the Klebs-Loeffler bacillus in the spinal fluid. He gives no record of a virulence test being made on the Klebs-Loeffler bacillus. A number of men have reported on the changes in the spinal fluid of diphtheritic paralysis and all agree that the organisms are never found in the spinal fluid in this condition.

In the German literature, four cases of meningitis with the Klebs-Loeffler organism as the proved etiologic agent were found. The first of these was described by von Stirling and reported by Pockels[5] in a child suffering with a mastoid infection. A brain abscess developed from which a pure culture of Klebs-Loeffler bacilli was obtained.

Pockels[5] reported a case in which a 7½ year old child showed symptoms of meningitis. On culture of the spinal fluid, both the streptococcus and the diphtheria bacillus were obtained.

Fuchs[6] reported a case in a woman, aged 38, in which a culture of the spinal fluid showed a diphtheria bacillus. The patient recovered following the use of diphtheria antitoxin.

Glaser[7] in 1917 reported a case of true diphtheritic meningitis in a soldier, in whom the bacteriologic examination revealed Klebs-Loeffler bacilli and the patient recovered following the use of antitoxin.

Reiche[8] in 1914 reported a number of cases of meningitis complicating diphtheria; however, in all his cases the meningitis was due to some organism other than the diphtheria bacillus.

The following case of meningitis due to the Klebs-Loeffler bacillus occurred in our hospital recently:

REPORT OF CASE

A white boy, aged 2½ years, was admitted to St. Joseph's Mercy Hospital, Dec. 5, 1934. The parents stated at the time of admission that the patient had been sick for approximately ten days prior to entering the hospital. He was seen by a physician in a neighboring community, and a diagnosis of bilateral otitis media was made and paracentesis was done. The patient improved following this procedure. The ears, however, stopped draining and were reopened after two or three days by the same physician, at which time he noted signs of a meningitis and urged hospitalization. This was refused by the parents, and the patient was not under medical supervision for approximately three days, at which time a second physician was called and the patient was referred to the hospital. On admission, an examination of the ears showed a small amount of a dried exudate in one auditory canal, with evidence of previous paracentesis in both drums but no evidence of bulging or involvement of the drum at the time of examination. Roentgen examination of the mastoids at this time showed no destruction of mastoid cells. A spinal puncture was done. The fluid was cloudy and under increased pressure. The globulin was increased. There were approximately 20,000 cells per cubic millimeter and smears showed many organisms that morphologically appeared to be Klebs-Loeffler bacilli. Examination of the throat showed it to be slightly red, but there was no evidence of a membrane in the nose, pharynx or larynx. However, a culture of the throat was positive for Klebs-Loeffler bacilli. The patient received 5,000 units of diphtheria antitoxin, intramuscularly, and the following day 8,000 units of antitoxin was administered through a cisternal puncture. Examination of the spinal fluid obtained at this time again showed the same organism. A third injection of 10,000 units, intramuscularly, was given. Repeated spinal punctures were

1. Miller, M. K., and Lyon, M. W.: Meningitis Due to a Threadlike Diphtheroid Organism in an Infant, Am. J. M. Sc. **162:** 593 (Oct.) 1921.
2. Kessel, Leo, and Romanoff, Alfred: General Infection with Diphtheroid Bacillus Complicated by Diphtheroid Meningitis, J. A. M. A. **94:** 1647-1648 (May 24) 1930.
3. Dick, G. F.: Case of Cerebrospinal Meningitis Due to Diphtheroid Bacillus, J. A. M. A. **74:** 84 (Jan. 10) 1920.
4. Moritz, D.: Meningitis from Diphtheria Bacilli; Case, Nourrisson **18:** 310-313 (Sept.) 1930.
5. Pockels, W.: Growth of Bacilli in Cerebrospinal Fluid of Diphtheria Patients, Monatschr. f. Kinderh. **49:** 394-396, 1931.
6. Fuchs, F. E.: Meningeal Diphtheria; Meningitis Following Radical Nasal Operation, Monatschr. f. Ohrenh. **67:** 310-313 (March) 1933.
7. Glaser, W.: Diphtheriebazillen als Meningitiserreger, München. med. Wchnschr. **64:** 856, 1917.
8. Reiche, F.: Meningitis bei Diphtherie, Ztschr. f. Kinderh. **11:** 4524-59, 1914.

done until the fluid became so thick that it would not run from a No. 18 needle. Following this, cisternal punctures were done for relief of pressure.

The physical examination, other than that just given, was negative except for a rapid pulse, a few moist râles in the chest, positive Kernig and Babinski reflexes, and a stiff neck.

The temperature remained high and the patient failed gradually and died December 14, after being in the hospital nine days.

Laboratory work, other than on the spinal fluid, showed a few erythrocytes and leukocytes in the urine and 1 plus albumin. The red blood cell count was 3,680,000, the white blood cell count was 34,400, the hemoglobin 70 per cent, polymorphonuclear leukocytes 75 per cent, lymphocytes 20 per cent, monocytes 3 per cent, myelocytes 2 per cent and a shift to the left (Schilling) of 25 per cent.

The organism grew in pure culture. A virulence test was run and the organism found to be a virulent diphtheria bacillus.

On the day following admission of the patient to the hospital, a younger child in the family was seen with a temperature of 104 F. and a positive smear and culture of the throat, although no membrane was present in this child. He received antitoxin and was referred to the care of his home physician, who reported that the next day the temperature returned to normal and remained normal.

Autopsy was negative except for a diffuse purulent meningitis covering the entire brain and the spinal cord, and a bilateral otitis media with mastoiditis. There was little destruction of bone present. There was no evidence of myocardial damage. Microscopic sections of the brain showed only superficial involvement, with relatively little penetration of the infectious process.

SUMMARY

In a case of fatal meningitis with Klebs-Loeffler bacilli as the causative agent, guinea-pig inoculation showed the organisms to be a virulent strain.

No similar cases could be found in the English literature. The German literature contained four cases.

The case reported developed following otitis media and mastoiditis.

Council on Pharmacy and Chemistry

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

PAUL NICHOLAS LEECH, Secretary.

LACTOBACILLUS ACIDOPHILUS MILK (TOWT) OMITTED FROM N. N. R.

Lactobacillus Acidophilus Milk (Towt), prepared by Towt-Nolan Laboratory, was accepted by the Council in 1927 as meeting the conditions prescribed for similar lactic acid-producing preparations.

At the expiration of the period for which it was accepted the Council examined the data submitted by the firm as evidence of its eligibility for continued inclusion. A number of objections to labels, circulars and miscellaneous advertising matter were reported. The firm was informed of these objections and further informed that the product would be reaccepted if the objections were met. A reply was received by the Council in which the firm expressed its intention to cooperate at all times but asked that the Council grant a period of six months in which to use up a supply of material that was on hand. The Council acceded to the firm's request for a six months period. When this period had expired the firm was asked to submit the necessary revised material. No reply was received to this request and two reminders were likewise ignored. Since the firm has not lived up to its agreement to cooperate, the Council has no alternative but to omit the product from New and Nonofficial Remedies.

The Council therefore voted to omit Lactobacillus Acidophilus Milk (Towt) from New and Nonofficial Remedies because the manufacturer failed to submit evidence of its continued acceptability.

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

PAUL NICHOLAS LEECH, Secretary.

BOTULINUS ANTITOXIN.—An antitoxic serum prepared by immunizing animals against two or more strains of the toxin of Clostridium botulinum.

Actions and Uses.—For prophylaxis and treatment of botulism. Jensen-Salsbery Laboratories, Inc., Kansas City, Mo.

Botulinus Antitoxin (Human)-Jensen-Salsbery.—This antitoxin is prepared by the hyperimmunization of horses and cattle by continued and progressively increasing doses of botulinus toxin. It is prepared against two types of the toxin, namely, A and B. Each type is prepared in separate animals and the commercial product is prepared by mixing given quantities of each type so that each marketed package will contain 2,000 units each of type A and type B antitoxin, the unit of each being that established and distributed by the National Institute of Health. The animals are bled at specified intervals and the same technic is used in preparing the final product as is required by the National Institute of Health in the preparation of the antitoxins for which standards have been established. The product is not concentrated but consists of the whole serum as it is derived from the defibrinated blood by process of centrifugation and Berkefeld filtration. The preservative consists of a mixture of equal parts of refined tricresol and ether so that the final volume is 0.8 per cent of the combined preservative. It is marketed in packages of one vial containing 2,000 units each of type A and type B botulinus antitoxin.

Dosage.—Prophylactic, subcutaneous injections of at least 2,000 units of bivalent antitoxin; curative, intravenous injection of at least 10,000 units of the bivalent antitoxin repeated as the nature of the case indicates.

Committee on Foods

ACCEPTED FOODS

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED BY THE COMMITTEE ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION FOLLOWING ANY NECESSARY CORRECTIONS OF THE LABELS AND ADVERTISING TO CONFORM TO THE RULES AND REGULATIONS. THESE PRODUCTS ARE APPROVED FOR ADVERTISING IN THE PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION, AND FOR GENERAL PROMULGATION TO THE PUBLIC. THEY WILL BE INCLUDED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION.

FRANKLIN C. BING, Secretary.

HEINZ BRAND STRAINED MIXED GREENS

Manufacturer.—H. J. Heinz Company, Pittsburgh.

Description.—Canned mixture of strained kale, green lettuce and green asparagus retaining in high degree the natural vitamins and minerals.

Manufacture.—Fresh kale, green lettuce and green asparagus are trimmed and washed. Equal quantities are mixed, cooked and strained in the absence of air (coarse fibrous material is removed), vacuumized to remove occluded air and filled into enamel lined cans, which are sealed under vacuum and processed.

Analysis (submitted by manufacturer).—

	per cent
Moisture	92.7
Total solids	7.3
Ash	1.3
Fat (ether extract)	0.2
Protein (N × 6.25)	2.3
Reducing sugar as invert sugar	0.8
Total sugar as invert sugar	1.1
Crude fiber	1.2
Carbohydrates other than crude fiber (by difference)	2.3
Calcium (Ca)	0.17
Phosphorus (P)	0.05
Iron (Fe)	0.0014
Copper (Cu)	0.0003

Calories.—0.2 per gram; 6 per ounce.

Vitamins.—Vitamin biologic assay shows 380 Sherman units (530 international units) of vitamin A per ounce; 13 Sherman units of vitamin B per ounce; 14 Sherman-Bourquin units of vitamin G per ounce.

Chemical assay shows 123 international units of vitamin C per ounce.

Claims of Manufacturer.—For table use, but especially intended for infants, children and convalescents.

1. FAULTLESS BRAND TOMATO JUICE.
2. JACK SPRAT BRAND TOMATO JUICE
3. MARSHALL BRAND TOMATO JUICE
4. UNCLE WILLIAM BRAND TOMATO JUICE

Distributors.—2. Jack Sprat Foods, Inc., Marshalltown, Iowa. 3. Marshall Food Products Company, Marshalltown, Iowa. 1 and 4. Marshall Canning Company, Marshalltown, Iowa.

Manufacturer.—Marshall Canning Company, Marshalltown, Iowa.

Description.—Tomato juice seasoned with salt retaining in high degree the natural mineral and vitamin values.

Manufacture.—Specially selected ripe tomatoes, free from cracks or blemishes, are thoroughly cleaned, mechanically broken, and heated to 77 C. The juice is mechanically separated from cores, stems, skins and seeds in a steam atmosphere, slightly seasoned with salt, heated under vacuum, filled into cans, sealed and heat processed.

Analysis (submitted by manufacturer).

	per cent
Moisture	94.1
Total solids	5.9
Ash	1.0
Sodium chloride	0.7
Fat (ether extract)	0.1
Protein (N × 6.25)	0.9
Crude fiber	0.2
Reducing sugars as invert sugar	3.0
Carbohydrates other than crude fiber (by difference)	3.0
Acidity as citric acid	0.4

Calories.—0.2 per gram; 6 per ounce.

Vitamins.—The process avoids admixture of air with juice at all stages and consequently is considered efficient to retain vitamin C in high degree.

Claims of Manufacturer.—This tomato juice is a good source of vitamins A and B and an excellent source of vitamin C. For infant feeding and general table use.

LOEFLUND'S MALT SOUP STOCK

Distributor.—Schieffelin & Company, New York.

Manufacturer.—Ed. Loeflund & Company, Grunbach near Stuttgart, Germany.

Description.—Concentrated malt extract with added potassium carbonate and bicarbonate.

Manufacture.—Barley malt mash is maintained at an appropriate temperature until the enzymes have converted the starch to a definite ratio of maltose and dextrins; the solution is filtered, the filtrate admixed with 1.1 per cent potassium carbonate and bicarbonate (1:0.8), condensed under reduced pressure to the desired concentration, and canned.

Analysis (submitted by manufacturer).

	per cent
Moisture	23.0
Total solids	77.0
Ash	2.0
Fat (ether extract)	0.0
Protein (N × 6.25)	4-5
Reducing sugars as maltose	57-58
Dextrins (by difference)	12-13

Only small amount of diastase is retained.

Calories.—3.0 per gram; 85 per ounce.

Claims of Manufacturer.—For use in infant feeding under the direction of a physician.

1. DOLE BRAND HAWAIIAN PINEAPPLE ROYAL SPEARS
2. DOLE BRAND HAWAIIAN PINEAPPLE GEMS

Manufacturer.—Hawaiian Pineapple Company, San Francisco.

Description.—1. Canned, peeled and cored Hawaiian pineapple, cut into longitudinal sections and packed in pineapple juice with added cane sugar.

2. Canned, peeled and cored Hawaiian pineapple, cut in thick segments and packed in pineapple juice with added cane sugar.

Manufacture.—1. Same as Dole Hawaiian pineapple products (THE JOURNAL, April 8, 1933, p. 1106) except that the fruit is cut into longitudinal sections ("spears" or "fingers").

2. Same as Dole Hawaiian pineapple products (THE JOURNAL, April 8, 1933, p. 1106) except that the fruit is cut into 1 to 1½ inch slices, which are then divided into segments.

Analysis (submitted by manufacturer).—

	Spears per cent	Gems per cent
Moisture	75.9	73.9
Total solids	24.1	26.1
Ash	0.4	0.4
Fat (ether extract)	0.01	0.01
Protein (N × 6.25)	0.4	0.4
Reducing sugars as invert sugar	12.4	13.5
Sucrose	8.7	9.5
Crude fiber	0.3	0.3
Carbohydrates other than crude fiber (by difference)	23.0	25.0
Titratable acidity as citric acid	0.7	0.6

Calories.—0.9 per gram; 26 per ounce.

Vitamins.—Biologic assay shows canned pineapple to contain vitamin A and to be a good source of vitamins B and C. Practically equivalent to the fresh fruit in A and B, slightly inferior in C.

Claims of Manufacturer.—The canned product is practically equivalent to the fresh fruit in nutritional values (vitamin C slightly reduced). Fancy quality.

SUNSHINE BRAND EVAPORATED MILK

Manufacturer.—Litchfield Creamery Company, Litchfield, Ill.

Description.—Unsweetened, sterilized, evaporated milk.

Manufacture.—Milk received from company inspected farms is tested on arrival at the plant for acidity, sediment and odor. The milk is filtered, preheated to 100 C., evaporated, homogenized, cooled to from 2 to 4 C., automatically canned and sealed, processed at 117 C. for from eighteen to twenty minutes, and cooled.

Analysis (submitted by manufacturer).—

	per cent
Moisture	73.9
Total solids	26.1
Ash	1.5
Fat (ether extract)	7.8
Protein (N × 6.38)	7.5
Lactose (by difference)	9.2

Calories.—1.4 per gram; 40 per ounce.

Claims of Manufacturer.—See announcement on the advertising of the Evaporated Milk Association (THE JOURNAL, Dec. 19, 1931, p. 1890).

CELLU BRAND LITTLE KERNEL CORN, WATER PACKED

Distributor.—Chicago Dietetic Supply House, Inc., Chicago.

Packer.—L. H. Schlecht, Rossville, Ill.

Description.—Canned corn (cream style) packed in water.

Manufacture.—Selected ears of corn of the proper degree of maturity are trimmed, brushed to remove silk and washed. The kernels are cut from the cob, mechanically treated for removal of bits of cob and silk, mixed with water and preheated to disrupt starch granules and develop creamy consistency. The corn is then filled into cans, sealed and processed.

Analysis (submitted by distributor).—

	per cent
Moisture	84.9
Total solids	15.1
Ash	0.5
Fat (ether extract)	0.7
Protein (N × 6.25)	1.8
Crude fiber	0.5
Starch (diastase method)	9.2
Carbohydrates other than crude fiber (by difference)	11.6

Calories.—0.6 per gram; 17 per ounce.

Claims of Manufacturer.—Choice quality corn packed without added sugar or salt. For use in special diets in which sugar or salt is proscribed or in quantitative diets of calculated composition.

ADVERTISING LEAFLET "MELLOW MILK, HOMOGENIZED"

Illustrated booklet prepared by Esmond, Gundlach & Co., advertising agency, Cincinnati, for distribution by producers of accepted homogenized milks explanatory of the physical changes and more rapid digestibility of milk resulting from homogenization.

REPORTS OF OFFICERS

NOTE.—At the 1925 session of the Association, the House of Delegates suggested that all reports of officers, committees, etc., and resolutions to be brought before the House, if available, be published in advance of the session so as to permit careful consideration and discussion.—Ed.

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the American Medical Association:

The following report of the Secretary is respectfully submitted:

Membership

Since the annual session of the Association is being held one month earlier than is usual, the report pertaining to membership and Fellowship is based on enrolment on March 1, 1936, rather than on April 1.

The number of members enrolled on March 1, 1936, was 101,754. This represents an increase of 2,218 over the number of members reported as of April 1, 1935, at the Atlantic City session.

Fellowship

The number of Fellows of the Association, as shown by the official roster, on March 1, 1936, was 62,997, an increase of 1,591 over the number reported as of April 1, 1935.

An accompanying table indicates the number of counties in each state and territory, the number of component societies as shown by the records in the Secretary's office, the number of members enrolled at the time the count was made for the purposes of this table, and the number of Fellows, including Honorary Fellows and commissioned officers of government medical services.

Organizational Activities

From information secured through correspondence with secretaries and other officers of constituent associations and component societies, and from information otherwise received, it is clearly apparent that constant progress is being made in most of the states in strengthening the machinery of medical organization and in extending the influence of state and county medical societies. In several states greater care is being exercised in the selection and admission of members. Much closer contact is being maintained with organized groups among the lay public that have concerned themselves with medical and public health affairs. It seems quite apparent that the officers and members of many societies are carefully studying conditions existing within their own jurisdictions with a view to enhancing the service that can be rendered to their own members and to the public. Even so, there is still room for improvement in many places, because there are still too many county medical societies that are comparatively inactive and some that are practically dormant.

Annual Conference of Secretaries of Constituent State Medical Associations

The Annual Conference of Secretaries of Constituent State Medical Associations was held in Chicago in November 1935 with a fine attendance. It is gratifying to note that the number of officers of state medical associations other than secretaries and editors who attend the Conference is increasing with each succeeding year, and it is heartening indeed to observe the fine spirit of mutual helpfulness exhibited by the members of the Conference. The discussions that take place at these conferences are free and frank and are characterized by friendly criticisms and suggestions which are intended to be constructive and helpful.

Field Work

The elective officers of the American Medical Association and individual members of the Board of Trustees and of other official bodies, the Editor of THE JOURNAL, the Secretary and General Manager, and directing heads of the Association's councils, bureaus and departments have visited many medical societies in practically all parts of the United States during the last year. Representatives of the Association have appeared before a greater number of lay audiences than ever before. The Editor of THE JOURNAL, the Director of the Bureau of Health and Public Instruction and the Director of the Bureau of Medical Economics have appeared as speakers on a number of radio programs and have thus reached audiences that are said to have included millions of persons.

A number of constituent state medical associations have largely increased their field activities and have inaugurated splendid educational programs. In a few states the presidents and secretaries of the state medical associations have visited

Organization of Constituent State Associations

	Number of Counties in State	Number of Component Societies in State	Organization of Constituent State Associations: Number of Counties Not Organized		No. of Physicians in State, 13th Ed. A. M. A. Directory	Number of Members of State Associations		Number of Fellows in State
			1935	1936		1935	1936	
Alabama	67	67	..	..	2,129	1,451	1,457	517
Arizona	14	12	1	1	468	249	277	206
Arkansas	75	63	9	9	1,890	1,062	1,069	375
California	58	39	12	10	10,490	5,291	5,382	3,559
Colorado	63	28	2	..	1,874	1,105	1,132	672
Connecticut	8	8	..	..	2,312	1,516	1,569	968
Delaware	3	3	..	..	301	194	200	116
Dist. of Columbia	..	..	..	..	1,851	709	737	575
Florida	67	32	30	23	1,840	1,030	1,081	595
Georgia	161	96	48	46	2,811	1,647	1,689	642
Idaho	44	10	..	..	388	214	234	138
Illinois	102	92	6	7	11,504	6,767	7,085	4,418
Indiana	92	82	2	2	4,049	2,828	2,834	1,608
Iowa	99	97	..	..	3,141	2,219	2,295	1,316
Kansas	105	65	30	28	2,153	1,364	1,417	814
Kentucky	120	115	3	3	2,808	1,710	1,708	732
Louisiana	64	40	19	18	2,127	1,234	1,256	682
Maine	16	15	1	1	984	700	698	375
Maryland	23	22	1	1	2,617	1,328	1,368	819
Massachusetts	14	18	..	..	7,014	4,737	4,827	3,011
Michigan	83	53	4	1	5,678	3,468	3,661	2,190
Minnesota	87	34	2	1	3,174	2,239	2,202	1,429
Mississippi	82	24	1	1	1,525	1,220	1,200	310
Missouri	115	84	8	9	5,570	3,231	3,145	2,007
Montana	56	15	25	26	480	340	340	205
Nebraska	93	49	20	20	1,772	1,161	1,093	674
Nevada	17	5	14	12	139	100	104	64
New Hampshire	10	10	..	..	602	479	490	253
New Jersey	21	21	..	..	4,915	2,911	3,036	2,168
New Mexico	31	12	19	19	398	215	209	154
New York	62	61	1	1	22,812	13,368	14,375	9,347
North Carolina	100	83	2	3	2,460	1,596	1,557	728
North Dakota	53	13	10	10	511	375	385	265
Ohio	88	86	2	..	8,769	5,288	5,334	3,496
Oklahoma	77	65	11	7	2,409	1,512	1,494	724
Oregon	36	23	3	3	1,308	652	742	442
Pennsylvania	67	60	6	6	12,608	8,122	8,415	5,499
Rhode Island	5	6	1	1	907	494	501	361
South Carolina	46	39	..	..	1,329	921	599	346
South Dakota	69	12	11	11	583	282	332	197
Tennessee	95	50	16	26	2,970	1,503	1,688	713
Texas	254	132	12	14	6,679	3,980	4,024	1,905
Utah	29	9	4	3	521	381	398	223
Vermont	14	10	3	3	517	368	374	184
Virginia	100	53	11	10	2,659	1,740	1,732	891
Washington	39	23	14	14	2,000	1,383	1,267	786
West Virginia	55	29	5	5	1,779	1,122	1,223	616
Wisconsin	71	52	1	1	3,302	2,182	2,215	1,520
Wyoming	24	12	11	10	237	149	141	92
Alaska	..	..	..	..	55	13	20	14
Hawaii	5	4	1	1	362	235	262	113
Isthmian Canal Zone	..	..	..	..	194	108	109	18
Philippine Islands (Provinces)	56	12	45	44	2,147	717	446	38
Porto Rico (Dist.)	7	7	..	..	407	326	326	72
Foreign	..	..	..	..	....	....	....	192
Total	3,142	2,061	417	411	164,514	99,536	101,754	60,374
Commissioned medical officers								2,623
								62,997

A number of constituent state medical associations have largely increased their field activities and have inaugurated splendid educational programs. In a few states the presidents and secretaries of the state medical associations have visited

every component county medical society within their respective states. Reports received from official sources indicate that the councils of the constituent associations, or the boards of trustees, which in some states correspond to the councils, are giving more zealous attention to their official duties than ever before.

RESOLUTIONS FROM CALIFORNIA MEDICAL ASSOCIATION

The following resolutions were transmitted by the secretary of the California Medical Association with the request that they be included in the Handbook of the House of Delegates and printed in the AMERICAN MEDICAL ASSOCIATION BULLETIN:

Under instructions of the Council of the California Medical Association, the California Medical Association delegates to the 1936 Kansas City Session are directed to introduce the following resolution in the American Medical Association House of Delegates:

WHEREAS, Certain organized lay groups in this country are endeavoring to arrange for the provision of diagnostic medical service along with and as part of hospital services; and

WHEREAS, The provision of such diagnostic medical service will inevitably foster fundamental changes in the practice of medicine; and

WHEREAS, Such changes in the practice of medicine may well result in deterioration of our present medical standards and especially in deterioration in the quality of medical care furnished to hospital patients; now therefore be it

Resolved, That it is the official policy of the House of Delegates of the American Medical Association that it disapproves of the division of any branch of medicine into technical and professional portions; and be it further

Resolved, That copies of this resolution shall be brought to the attention of the American Hospital Association and its affiliated groups, to the end that existing arrangements permitting division in medical practice be terminated as speedily as possible.

MEMBERSHIP JURISDICTION

It is important for various reasons that the jurisdiction of component societies and constituent associations with respect to membership should be clearly defined and definitely maintained. In most if not all states, provision is made whereby physicians residing in one county may become members of the medical society of an adjoining county provided the society of the county in which they reside and practice will waive jurisdiction. This is undoubtedly a wise provision, designed to serve the convenience of a comparatively large number of physicians who reside near county lines, and no doubt tends to bring into membership qualified physicians who otherwise might withhold their affiliation.

There are many physicians located near state lines, and there seems to be an increasing tendency for such physicians to maintain membership in the component county medical societies of states other than those in which they reside and practice. There are reasons why it is just as important for the jurisdiction of a constituent state medical association over physicians within its own territory to be as definitely fixed as the jurisdiction of the component county medical society. It is therefore respectfully suggested that the House of Delegates at this session consider the advisability of formulating suggestions, to be offered to the constituent associations, to the effect that physicians residing near state lines may be given the privilege of affiliating themselves with the component societies of immediately adjacent counties in other states. Such an arrangement would involve definite agreements between the constituent state medical associations of adjoining states.

The Secretary again makes most grateful acknowledgment of the many considerate kindnesses that have been shown him by the members and officers of official bodies of the Association, by the officers of constituent state medical associations and component county medical societies, by members of this House of Delegates, and by a large number of the individual members of the Association in all parts of the country.

Respectfully submitted. OLIN WEST, Secretary.

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

During each of the last ten years there has been a very constant increase in the work that the American Medical Association has been called on to do, and a very earnest effort has been made to expand the needed facilities within the bounds of reason and safety. Not only has the amount of work grown greater year after year, but the scope of the Association's activities has been greatly extended. Whenever any new facility has been provided, new demands have been created, until in 1935 an entirely new mark measuring the amount of work done in the Association's offices was established.

It became necessary during the year to increase the working personnel until, at the time this report was prepared, there were more than 550 persons in the Association's employ.

The Journal of the American Medical Association

The increasing circulation of THE JOURNAL, the innumerable references to its columns in medical and lay periodicals and in newspapers throughout the world, and the great number of letters received from subscribers testify to the almost universal appreciation of this publication. Several series of special articles, notably those on glandular therapy and on the therapy of the Cook County Hospital, have attracted special attention. Arrangements are being made to republish the first series in several foreign languages. The department of questions and answers has gradually assumed increasing significance as a source of reference for the general practitioner. Many comments indicate that its practical value is generally realized. THE JOURNAL continues to serve as the voice of the organized medical profession of the United States, reflecting not only scientific advancement but also the interest of the profession in medical education and medical economics.

Tables 1 and 2 indicate the approximate count of Fellows and subscribers carried on the mailing list of THE JOURNAL, showing the gain or loss of Fellows and subscribers and the number of physicians receiving THE JOURNAL in each state.

The average number of copies of THE JOURNAL printed weekly during the year 1935 was 88,843. The net paid circulation, Dec. 31, 1935, was 89,179, an increase of 4,344 over the net paid circulation on a similar date in the previous year.

Summary

The Journal of the American Medical Association has been maintained at the high standard of recent years and is developing new features of practical value pointed toward the interest of the general practitioner.

The paid circulation, Dec. 31, 1935, was larger by 4,344 than on the same date in 1934.

Special Journals

During 1935 the special periodicals were maintained at the usual scientific standard which they have held since their inception. The Association now publishes special periodicals in the field of internal medicine, diseases of children, otolaryngology, ophthalmology, pathology, neurology and psychiatry, dermatology and syphilology, and surgery. These publications are issued primarily with the view to advancing the sciences with which they are concerned. They have been everywhere recognized as equal to the very best in their fields published anywhere else in the world.

The special journals of the American Medical Association are not published in the interests of any single specialistic organization but are planned primarily with a view to the promotion of the science rather than of the individuals or the groups interested in that science. Recently other periodicals have been issued by commercial publishing organizations which have become the special organs of certain groups organized within some of the specialties. This has served to diminish to some extent the circulation of our own publications, since those who join the special organizations are compelled to subscribe to the privately published periodical as a part of their membership. Members of the Association who devote themselves primarily to specialties should realize the independent nature of the publications issued by the Association and should realize also that the continuance of such publications depends on the support given to them by those who practice these specialties. The special periodicals are not published with any idea of commercial gain; in fact, they have regularly shown a loss as a group since the time when they were first established.

During the year, requests have been received by the Board of Trustees for the establishment of additional periodicals in special fields. The decision as to whether or not the Associa-

tion can still further extend its efforts in this direction will naturally depend on the support which develops from the medical profession as an indication of the extent to which the periodicals are desired.

With the beginning of 1935 the ARCHIVES OF INTERNAL MEDICINE established the policy of publishing in each issue a competent review of the advancement of knowledge in some special field of internal medicine. These reviews have been received with enthusiasm and commendation throughout the world. In fact, the project has been so successful that appeals are already being made for the publication of such material in independent book form. Encouraged by this reception, the editors of the ARCHIVES OF INTERNAL MEDICINE have made plans to continue the reviews as a permanent feature of the ARCHIVES.

The circulation of the special scientific journals has been somewhat unfavorably affected by the economic situation, although the total circulation of this group of publications was increased by nearly 1,000 in 1935.

Only two of the special journals, the ARCHIVES OF OTO-LARYNGOLOGY and the ARCHIVES OF OPHTHALMOLOGY, produced incomes in excess of the cost of publication. The cost of publication of the entire group in excess of income received was $28,004.70.

TABLE 1.—*Approximate Count of Fellows and Subscribers on The Journal Mailing List, by States, Dec. 31, 1935; Also Gain or Loss in Each State*

State	Fellows	Subscribers	Totals	Gain	Loss
Alabama	487	221	708	60	..
Arizona	184	123	307	42	..
Arkansas	328	167	495	13	..
California	3,318	2,278	5,596	294	..
Colorado	602	274	876	64	..
Connecticut	944	558	1,502	60	..
Delaware	111	75	186	13	..
District of Columbia	547	531	1,078	78	..
Florida	590	330	920	56	..
Georgia	579	345	924	78	..
Idaho	128	110	238	45	..
Illinois	4,099	2,795	6,894	248	..
Indiana	1,477	556	2,033	32	..
Iowa	1,178	414	1,592	..	61
Kansas	719	355	1,074	53	..
Kentucky	672	335	1,007	54	..
Louisiana	599	294	893	6	..
Maine	354	147	501	4	..
Maryland	770	578	1,348	125	..
Massachusetts	2,764	1,326	4,090	84	..
Michigan	2,032	1,169	3,201	212	..
Minnesota	1,283	553	1,836	97	..
Mississippi	269	112	381	10	..
Missouri	1,595	855	2,450	63	..
Montana	171	104	275	22	..
Nebraska	605	315	920	26	..
Nevada	60	31	91	7	..
New Hampshire	245	90	335	4	..
New Jersey	2,093	1,381	3,474	184	..
New Mexico	143	76	219	25	..
New York	8,624	5,485	14,109	666	..
North Carolina	712	408	1,120	100	..
North Dakota	213	79	292	7	..
Ohio	3,269	1,505	4,774	206	..
Oklahoma	625	285	910	67	..
Oregon	385	279	664	38	..
Pennsylvania	5,363	2,306	7,669	450	..
Rhode Island	345	192	537	9	..
South Carolina	310	194	504	24	..
South Dakota	181	120	301	1	..
Tennessee	642	407	1,049	88	..
Texas	1,640	859	2,499	108	..
Utah	193	101	294	21	..
Vermont	177	116	293	..	7
Virginia	829	392	1,221	68	..
Washington	712	348	1,060	48	..
West Virginia	557	256	813	43	..
Wisconsin	1,359	594	1,953	80	..
Wyoming	87	46	133	..	1
U. S. Army	..	170	170	..	..
U. S. Navy	..	217	217	..	..
Alaska	12	14	26	..	6
Canada	15	728	743	14	..
Cuba	4	67	71	26	..
Hawaii	96	66	162	12	..
Mexico	9	77	86	2	..
Panama	14	25	39	1	..
Philippine Islands	37	151	188	32	..
Puerto Rico	63	42	105	4	..
Virgin Islands	1	6	7	2	..
Foreign	114	2,312	2,426	243	..

Summary

The special journals have been continued on their usual high plane.

The Board of Trustees views with some alarm the establishment of commercially published periodicals, in some special fields, which become the official organs of special organizations involving a compulsory subscription and thereby detracting from the subscribers and incomes of our own periodicals, which are not published in the interests of any special groups.

The Board of Trustees is being importuned for the publication of additional special periodicals, and the matter is being given consideration.

There was a small gain in the total circulation of the special journals. The loss sustained in 1935 was $28,004.70.

Hygeia

Increasing circulation and innumerable quotations from HYGEIA in newspapers and in other periodicals testify to the manner in which HYGEIA is reaching a vast audience. Hardly a day passes in which letters are not received from magazines devoted to digests of important literature, magazines in the field of education and periodicals devoted to industry and labor, requesting the right to abstract or reprint articles from HYGEIA. Its dramatization of health is being regularly used in many schools. The illustrations have been kept at a high standard and the content appeals to many different interests in the health field. The HYGEIA editorials have been designed to give to the public the point of view of the medical profes-

TABLE 2.—*Physicians Receiving The Journal* *

State	Number Receiving Journal	Physicians in State; A.M.A. Directory	Approximate Percentage Receiving Journal
Alabama	708	2,129	33
Arizona	307	468	65
Arkansas	495	1,890	26
California	5,596	10,490	53
Colorado	876	1,874	47
Connecticut	1,502	2,312	65
Delaware	186	301	62
District of Columbia	1,078	1,851	58
Florida	920	1,840	50
Georgia	924	2,811	33
Idaho	238	388	61
Illinois	6,894	11,504	60
Indiana	2,033	4,049	50
Iowa	1,592	3,141	51
Kansas	1,074	2,153	50
Kentucky	1,007	2,808	36
Louisiana	893	2,127	42
Maine	501	984	50
Maryland	1,348	2,617	51
Massachusetts	4,090	7,014	58
Michigan	3,201	5,678	56
Minnesota	1,836	3,174	58
Mississippi	381	1,525	25
Missouri	2,450	5,570	44
Montana	275	480	57
Nebraska	920	1,772	52
Nevada	91	139	62
New Hampshire	335	602	56
New Jersey	3,474	4,915	71
New Mexico	219	393	56
New York	14,109	22,812	61
North Carolina	1,120	2,460	46
North Dakota	292	511	57
Ohio	4,774	8,769	55
Oklahoma	910	2,409	38
Oregon	664	1,308	50
Pennsylvania	7,669	12,608	61
Rhode Island	537	907	59
South Carolina	504	1,329	38
South Dakota	301	583	52
Tennessee	1,049	2,970	35
Texas	2,499	6,679	37
Utah	294	521	56
Vermont	293	517	57
Virginia	1,221	2,659	46
Washington	1,060	2,000	53
West Virginia	813	1,779	46
Wisconsin	1,953	3,302	59
Wyoming	133	237	56

* This table gives the number of physicians (based on the Thirteenth Edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL, and the approximate percentage in each state. Copies to physicians in the United States Army and Navy are not included.

sion in relation to sociological, economic and scientific subjects. Commendations of the American Medical Association for this venture come from many sources, including individual subscribers, laymen, dentists, nurses, teachers, health officers and practicing physicians.

Even though the total circulation was well maintained during the year and was considerably increased in the last month or two, the income received was less than the cost of publication by the sum of $31,311.29. The loss sustained was largely due to the cost of promoting circulation and to expenditures made for its improvement. The advertising income in 1935 was only slightly in excess of the income from the same source in 1934. The total number of subscriptions at the end of the year was 86,745.

Summary

The numerous commendations and the increasing use of Hygeia in schools and as a source of public health information for many publications indicate that it is serving well the purpose for which it was established by the House of Delegates.

The cost of publication in 1935 was considerably larger than income received.

The Library

The library continues to render a maximum of service to the medical profession directly and through its contributions to the publication department of the Association.

During 1935, 9,854 periodicals were lent to physicians on individual requests; 3,113 package libraries containing reprints and periodicals were sent to physicians, the majority of the requests coming from Illinois, New York and Pennsylvania, three states in which medical libraries are easily available to the membership. Thus Illinois made 375 requests, notwithstanding that it has seventeen medical libraries; New York sent 218 requests, notwithstanding its thirty-four medical libraries, and Pennsylvania sent 195 requests, notwithstanding its twenty-four medical libraries. Next in order came Indiana with 156 requests but with only three libraries, Ohio 141 requests with eleven libraries, and Michigan 133 requests with only eight libraries. These figures should indicate the necessity of maintaining the package library service on the high plane which it has occupied from the beginning.

In addition to these services, the library answered 4,500 bibliographic questions. As usual the indexes to THE JOURNAL and to some of the books published by the Association were made in the Library. Although the library of the Association is planned primarily for service to the membership throughout the country, service was given directly to approximately 1,000 visitors during the year.

The QUARTERLY CUMULATIVE INDEX MEDICUS has now reached a point at which it is recognized throughout the world as the most significant publication in the medical bibliographic field. Its importance increases as other indexes, such as the *Index Catalogue of the Library of the Surgeon General's Office*, have become less available.

The time lag between the receipt of the foreign literature and its inclusion in the INDEX has been cut down to four weeks.

During the year the employees' library showed a circulation of 5,737 books, with an average daily circulation of twenty-four, 135 of the 550 employees of the Association availing themselves of this service.

Summary

The library has extended the scope of the periodical loans and the package library service, has maintained the Quarterly Cumulative Index Medicus at a high standard of efficiency and has rendered increasing service to the headquarters office in the preparation of indexes and of reference work for the various departments.

Quarterly Cumulative Index Medicus

The circulation of the QUARTERLY CUMULATIVE INDEX MEDICUS, one of the most important of all publications in the field of medicine and one of the greatest contributions made by the American Medical Association for the promotion of medical science, is largely confined to libraries. A copy of this publication in a library may be used by many individuals. The number of personal subscriptions is small. Of the total circulation of the INDEX MEDICUS, 616 copies go to foreign countries.

The cost of publication of the QUARTERLY CUMULATIVE INDEX MEDICUS in 1935 amounted to the sum of $44,439.84 over the amount of income received.

American Medical Directory

The Fourteenth Edition of the American Medical Directory at the time this report is written is being made ready for the press. It has been necessary to make a large number of changes in addresses as well as in the items of information concerning medical societies and institutions.

The total number of copies of the Thirteenth Edition of the Directory sold up to Dec. 31, 1935, was 8,280.

It is too early to hazard any prediction as to the probable cost of the Fourteenth Edition of the American Medical Directory.

Cooperative Medical Advertising Bureau

The Cooperative Medical Advertising Bureau represents thirty-two of the thirty-four journals of constituent state medical associations.

Commissions earned in 1935 amounted to $26,224.26, as compared with $21,247.06 in 1934. The sum of $9,000 was remitted to the state journals concerned, $3,000 more than was distributed to them in 1934. These remittances were distributed to the state journals in proportion to the total amount of advertising secured for each of them.

Summary

Thirty-two of the thirty-four journals of constituent state medical associations are represented in the Cooperative Medical Advertising Bureau. From the earnings of the Bureau the sum of $9,000 was distributed among these journals in amounts proportionate to the total amount of advertising secured for each journal.

Building and Equipment

For several years the need for a larger and better arranged building has been very apparent, and this fact has been brought to the attention of the House of Delegates in official reports previously submitted by the Board of Trustees. Careful consideration was given to the proposal that an entirely new building should be erected, but largely because of the unsettled economic conditions prevailing it was finally decided to enlarge the present building by the addition of two stories and to make alterations on several of the floors of the existing structure. When the building that has been used for several years was constructed, the plans provided for two additional stories. The Board of Trustees was advised by competent architects and engineers that, because of the splendid condition of the building and because of the comparatively large investment which it represented, it would perhaps be more desirable to erect two additional stories and to alter existing floors rather than to undertake the erection of an entirely new building. Another important reason which led to the decision to enlarge the present building was found in the fact that some of the bonds held by the Association had matured and were retired while others were called and replaced by securities bearing lower interest rates, and that it was found to be rather difficult to invest the proceeds of bonds that had matured or had been called without paying high premiums for new securities. The time seemed to be propitious for enlargement and improvement of the Association's housing facilities.

With the enlargement and alterations that are now being made, it will be possible for departments closely allied to be brought together on one floor. This is particularly true of the Editorial Department, which is now scattered over three floors. In the future, this department together with the library will be located on the eighth floor of the enlarged building. It will be possible to have the offices of the Council on Pharmacy and Chemistry, the Council on Physical Therapy, the Committee on Foods and the Chemical Laboratory brought together on one floor and thus to correlate the work of these departments more closely than could be done in the past. Additional room will be made for other departments which have been forced to

occupy rather cramped quarters, and it is the hope and belief of the Board of Trustees that because of greater room that will be provided and more convenient arrangements that can be made the constantly increasing work that the Association is called on to do can be performed with greater facility and efficiency.

New elevators and new machinery for handling paper in the printing department will be included in the improvements. The brick walls on the Dearborn Street front and on the Grand Avenue side of the building have been replaced with stone, and the building has thereby been much beautified.

An assembly hall, which will be located on the top of the building, will make it possible for meetings of the House of Delegates and for the Annual Conference of Secretaries of Constituent State Medical Associations as well as for other important meetings to be held at the Association headquarters.

It is expected that the building will be completed within a short time.

Because of constantly increasing demands on the printing department, it has become necessary to install additional linotype machines, to replace some presses and other machinery that is now outworn, to enlarge the stereotype room and to add to the equipment of that department.

The total outlay required for altering and enlarging the building and for providing new equipment and machinery will approximate $425,000.

Summary

Two stories have been added to the Association's building and alterations made on the lower floors.

An assembly room will be provided.

Enlargement of facilities in the mechanical departments is being made and outworn machinery is being replaced.

The offices of correlated departments will be brought together and more space will be available for offices that have heretofore been crowded.

Council on Pharmacy and Chemistry

At the close of 1935 the Council completed its thirtieth year of service for the better interests of medicine. In a report of the Council fifteen years ago the following statements were made:

> It was a genuine disappointment to the Council to find [since its organization in 1905] that some large and old-established firms . . . were not only unwilling to cooperate with the Council but, in many instances, exhibited a definite antagonism to the Council's work. . . . The antagonism of certain pharmaceutical houses is, therefore, a matter of cold-blooded business policy. When the medical profession as a unit will support the Council on Pharmacy and Chemistry in its work, then such firms will find it good business policy to market only scientific proprietaries under truthful claims. Then the Council will be able to give such products the recognition they deserve—a recognition which the profession should demand as a prerequisite to their use.

Today the situation is decidedly better. All of the more important pharmaceutical houses cooperate with the Council to a very considerable degree; this in turn means that the thoughtful physician who buys or prescribes his drugs with scrutinizing care is supporting those concerns which market scientific preparations under truthful claims. This does not mean, to be sure, that some of these producers do not engage in practices that the Council does not approve; but it does mean that these houses are taking heed increasingly of the favorable attitude of the profession toward the Council.

There are many products which do not stand accepted by the Council for well defined reasons. Some members of the profession, unfortunately, use products that are a distinct detriment to progressive medicine—a practice which encourages the producers to follow policies directly opposed to those of the American Medical Association and thus hinders the efforts of the Council and the Association to advance the cause of scientific medicine. As more and more of these men awaken to their responsibility, the cause of rational therapeutics advances. The Council stands in the forefront of this advance.

PUBLICATIONS OF THE COUNCIL

New and Nonofficial Remedies.—New and Nonofficial Remedies is in a constant state of revision. Supplements are issued throughout the year in order to keep subscribers informed of the products found acceptable in the interim between editions. The U. S. Pharmacopeia XI and the National Formulary VI were issued in the latter part of 1935, though they will not become official until June 1, 1936. It has required a considerable amount of time of the Council and its staff to revise New and Nonofficial Remedies to agree with descriptions of products in the new U. S. Pharmacopeia and the new National Formulary. Of the new additions to the Pharmacopeia many are products which stood accepted by the Council for New and Nonofficial Remedies and for which the A. M. A. Chemical Laboratory had elaborated standards.

As is usual, the 1936 volume of New and Nonofficial Remedies will contain additions of new drugs and notice of the omission of others. Considerable study has been given to the entire problem of vitamins, with the result that that section dealing with these products has been radically edited. The same applies to serums and vaccines and to other chapters.

During 1935 a number of new drugs were accepted by the Council. Among these were the following: Aminoacetic Acid (Glycocoll, Glycine), proposed for ameliorative treatment of such conditions as myasthenia gravis and progressive or pseudohypertrophic muscular dystrophy; Larocaine Hydrochloride, another local anesthetic of the procaine type; Alurate, Sodium Alurate and Ipral Sodium, additional barbital compounds; Ephedrine Anhydrous and Ephedrine Hemihydrate, which replace the formerly accepted ephedrine alkaloid; Azochloramid, a new chloramine preparation claimed to have some advantages over chloramine, dichloramine and solution of chlorinated soda; Beta-Lactose, proposed for use in infant feeding and as a supplementary food for adults. It differs markedly in physical properties from the well known alpha-lactose (milk sugar); Pyrethrum Ointment, containing an extract of pyrethrum flowers proposed for use in the treatment of scabies; Meningococcus Antitoxin, for use in specific meningococcic infection; Staphylococcus Toxoid, containing the hemolytic and dermonecrotic toxins of Staphylococcus pyogenes-aureus and albus altered by the formaldehyde-detoxifying process of Burnet (modified from Ramon); Mapharsen, the hemialcoholate of 3-amino-4-hydroxy phenylarsine oxide hydrochloride, proposed for use in the treatment of syphilis; and Iodobismitol with Saligenin, a solution of sodium iodobismuthite and sodium iodide in propylene glycol containing saligenin and a small amount of acetic acid, to replace the formerly accepted Iodobismitol.

Epitome of the U. S. Pharmacopeia and National Formulary.—A drastic revision has been made of this useful book, which has a wide circulation. It constitutes a valuable guide to those who wish to know what is and what is not official in the two new official compendiums, and it gives as well an epitomized opinion of the relative value of the respective drugs.

Useful Drugs.—This is a selected list of drugs prepared under the direction and supervision of the Council on Pharmacy and Chemistry. This, too, has been thoroughly revised and brought into conformity with the new Pharmacopeia and with the best current information as to the uses and value of the drugs described.

Hospital Practice for Interns.—The revision of the Council's publications will be concluded with the reconstruction of this handbook for interns, published jointly by the Council on Medical Education and Hospitals and the Council on Pharmacy and Chemistry. It is anticipated that it will be a most valuable reference book not only for the intern but for the practicing physician as well.

REPORTS OF THE COUNCIL

The Council has continued to inform the medical profession as to preparations considered and found wanting. Among the products so discussed were Dinitrophenol, Ho-Mo-Sol, Imbak Preparations, Ply #1, Ply #2 and Ply #3, Rossium, Scott's Cod Liver Oil Concentrate Tablets, Shadocol and Vegemucene. It should be realized that these represent only a small portion of the adverse reports, as increasingly producers decide to take off the market products which have been found to be not acceptable. Furthermore, a number of the products were not of sufficient importance to warrant publication in THE JOURNAL and therefore these reports will appear in the Annual Reprint of the Reports of the Council on Pharmacy and Chemistry. There are many reports held in abeyance in order that the manufacturer may determine whether or not he can obtain

evidence to justify the claims. The Council permits such reports to be held in abeyance provided manufacturers agree not to promote the products actively during this period.

The Council by no means confines itself to publication of adverse reports. The descriptions of accepted products which appear almost weekly in THE JOURNAL are in themselves favorable reports. In addition the Council each year publishes noteworthy preliminary and special reports, many of which have been highly commended.

Dinitrophenol.—When dinitrophenol was first brought to the attention of the profession, the Council issued a preliminary report. While recognizing the tremendous academic interest in this preparation, it warned the profession against the use of the drug on an extensive scale until adequate clinical evidence was available to show its harmlessness. During the time of its introduction and through 1935 the Council and also THE JOURNAL issued reports of warning. The Council refused to accept for inclusion in New and Nonofficial Remedies brands submitted to it. The conservative stand of the Council proved valuable in the light of the experience with this drug, which shows it to be potent for irreparable harm in certain instances.

Standardization and Labeling of Liver and Stomach Preparations for Use in the Treatment of Pernicious Anemia.—A report designed to create a greater degree of uniformity and accuracy in the potency declarations of the marketed liver and stomach preparations was prepared by the Council. This entailed much work and extensive consultation with authorities in the field. Since the publication of this statement (THE JOURNAL, Oct. 19, 1935, p. 1269) manufacturers have been in a position to assay their products according to a relatively uniform acceptable method. This permits a more accurate therapeutic evaluation of these products and gives the practicing physician a basis on which to determine within an approximately accurate range the potency of the preparations he is importuned to use. The statement of the Council has been received with unusual interest not only in this country but abroad.

Thromboplastic Substances.—A hospital informed the Council that it had found a certain brand of Thromboplastin apparently to be the cause of some unusual sequelae in cases in which it was used as a topical hemostatic agent. Specimens of the product were purchased on the open market and a bacteriologic examination was made. Specimens of one of the brands were found to contain dangerous pathologic organisms. As a result, the manufacturer withdrew the product from the market and all manufacturers of *accepted* thromboplastic preparations have sent protocols indicating the methods whereby the sterility of their products is controlled.

Shotgun Vitamin Therapy.—Thirty years ago was the heyday of shotgun therapy in drugs. The theory was that, if careful diagnosis could not be made, the patient should be given a blunderbuss charge of drugs with the hope that one of them would hit the spot. A recurrence of this type of careless thinking today is occurring in the vitamin field, where there is a tendency to give all sorts of combinations with vitamins and minerals, when in reality it is but seldom that multiple avitaminosis occurs. Furthermore, there appears to be no more reason for combining the vitamins than there is for combining any of the other thirty-seven essential dietary constituents. In an article entitled "Shotgun Vitamin Therapy" the Council pointed out that mixed vitamin therapy is on insecure ground, and it will not accept mixtures of vitamin concentrates until the manufacturers are able to present adequate evidence of their rationality. The burden of proof for claims always lies on the one making the claims.

Ethical "Patent Medicines."—A classic procedure of manufacturers of pharmaceuticals has been first to make an effort to introduce a product to the profession and, if it was not taken up by the profession, then to permit it to go to the public. During the year the Council issued a report on "Vegemucene Not Acceptable for N. N. R." This report provides an example of what may happen when a new firm with only a few established products introduces a preparation of mediocre value to the profession and fails to obtain Council acceptance. In the present case the firm is now marketing its ulcer treatment directly to the laity in true "patent medicine" style.

Vitamin A in Urinary Lithiasis.—The occurrence of urinary calculi in rats may be associated with a deficiency of vitamins in the diet. This fact has been pointed out by certain clinicians and also by some watchful proprietary houses in order to suggest to the profession the use of vitamin A in the case of urinary lithiasis in human beings. A comprehensive report, requiring much time and effort on the part of the consultant who was asked to prepare it, was presented to the profession. This report showed a lack of evidence of the value of vitamin A in such conditions. In the light of this report it seems unlikely that manufacturers will be so bold as to advance blatant claims for the use of vitamin A preparations in the prevention and treatment of urinary lithiasis. The sad commentary, however, is that such claims were made before a critical survey had been published.

SPECIAL INVESTIGATIONS

Catgut Sutures.—During 1935 the Council authorized an investigation of the market supply of sutures. Work has been started under the auspices of a special committee of the Council. It is anticipated that it will be a year before this work is sufficiently advanced to warrant the Council's issuing its report. While sutures do not come directly in the purview of the Council on Pharmacy and Chemistry, it was felt that the examination could be made better under the Council's supervision, because of its facilities for such investigations.

Glandular Physiology and Therapy.—For the past few years the field of organotherapy has grown so rapidly that the Council thought it advisable that there should be an outstanding series of articles on both the physiology and the therapy of these products. Thirty-two articles were published in successive issues of THE JOURNAL in 1935. The Council's ability to obtain the services of the experts who contributed these articles, not only in the United States but in foreign countries as well, shows how highly the work of the Council is regarded. The vast amount of time and effort expended in this comprehensive review is illustrated when one considers the size and the scholarly paraphernalia of the bound volume of these articles. Incidentally, the articles were revised after publication in THE JOURNAL and previous to issuance in book form. As an indication of the high regard in which this book has been held, there have been requests from nine countries asking for the privilege of translation. As a result of this series of articles the Council will be in a better position to evaluate the status of proprietary glandular products.

The matter of nomenclature for glandular products is in a chaotic condition. The Council therefore has appointed an Advisory Committee on the Nomenclature of Endocrine Principles, which consists of sixteen experts, most of whom contributed to the series of articles just discussed. This group is now endeavoring to bring about some degree of uniformity in endocrinologic terminology. It is anticipated that the reports of this committee will be made available to the profession in the next few months. Thus, not only will the physician be aided in having a language by which he may determine similarity or dissimilarity of the various glandular products he is importuned to use, but medical literature as well will be benefited by the uniform terminology.

Nonspecific Protein Therapy.—There were also published under the auspices of the Council two articles on nonspecific protein therapy, written by Dr. Ludvig Hektoen and Dr. Russell L. Cecil. These contributions should aid in overcoming the chaotic state of present knowledge of this subject. They are particularly valuable in view of the questionable proprietary products of this kind which are currently "detailed" to physicians.

PROBLEMS BEFORE THE COUNCIL

In the report to the Trustees last year the Council discussed the use of letters and numbers in names, reporting its gratification that, in the case of all accepted products having numbers or letters in connection with names, the manufacturers, with one exception, agreed to omit them from the name. The single exception was Hexylresorcinol Solution S. T. 37. The Council is now gratified to report that the firm has indicated that it has ceased advertising the product to the public in the manner in which it was being done and has decided not to use the number in connection with the name. Pharmaceutical manu-

facturers themselves are apparently pleased by the Council's ruling on numbers, which ameliorated a condition that had already become chaotic.

Committee on Vitamins.—The confused vitamin situation caused the Council to suggest to the Committee on Foods the formation of a Cooperative Committee on Vitamins representing the two groups. The members of this committee, composed of Prof. W. E. Anderson, Dr. E. M. Bailey, Dr. K. D. Blackfan, Dr. S. W. Clausen, Dr. Morris Fishbein, Dr. P. C. Jeans, Dr. E. M. Nelson, Dr. W. W. Palmer, Dr. G. F. Powers, Dr. L. J. Roberts, Dr. M. S. Rose and Dr. Torald Sollmann, were in session for a day and a half considering reports of referees on special vitamin problems. Knowledge in the field of vitamins has grown so rapidly and the methods under which vitamin products are prepared and marketed have changed so greatly that it was necessary for the Council to formulate certain guiding principles for the benefit of both manufacturers and the profession. These concern the revision of the dosage of cod liver oil in view of its increased potency, the problem of the use of antioxidants, permissible claims for vitamins A, B, C and D, minimum daily dosage of vitamins B and C that would be significant, the irrationality of certain vitamin combinations, the lack of evidence for vitamin E requirements in the human being, the matter of vitamin D fortification of milk as well as the general problem of fortification of foods, together with a number of collateral questions. Both the Council and the Committee on Foods have acted on these considerations and are preparing statements for publication.

The Council regrets that one state medical society, whose journal supports the Council in its advertising pages, has seen fit to criticize the Council without first making inquiry to determine the facts. In this particular instance the charges were based on the most flimsy evidence and are untrue. Had the medical society taken the pains to inquire, it would seem certain that it would not have made the charges that it did. As it is, a pharmaceutical concern whose products are not accepted has taken up charges of the state medical society and broadcast them in its house organ. In the interest of fairness, if for no other reason, it would seem reasonable to expect that a constituent part of the American Medical Association would refrain from making such charges until inquiry has been made to ascertain the facts in any given case.

REORGANIZATION

At times certain problems of the Council on Pharmacy and Chemistry, the Committee on Foods, and the Council on Physical Therapy overlap; as a result it became apparent that each group has been maintaining separate offices and personnel for individualized work of interest to all three groups. It therefore seemed advisable that the work of these departments should be better correlated and that the offices be brought under one executive management. To do so required changes in physical arrangements, which was one of the contributing causes to the necessity of an enlarged building program. A plan, acceptable to all three groups, has been devised as follows: (1) that the administrative work of the three councils in the headquarters office be correlated under an executive secretary; (2) that a Committee on Policy, Rules and Procedure be established for the three groups, which will make recommendations on these matters. It is understood that the Committee on Policy, Rules and Procedure will suggest but not direct the work of the groups. The councils and the Committee will continue to function as single entities. The work of reorganization is now under way.

MEMBERSHIP OF THE COUNCIL

During the year the Council lost by death a most valuable member, Prof. Lafayette B. Mendel. Professor Mendel had served well the Association, both as a member of the Council since 1917 and as a member of the Committee on Foods since its inception in 1929. The Council issued a commemorative statement on the work of Professor Mendel, which was published in THE JOURNAL, Feb. 15, 1936, page 539. During 1935 Dr. Stanhope Bayne-Jones, Dr. Kenneth Blackfan and Dr. Eugene Du Bois resigned from the Council because of increasing responsibilities which they were forced to assume in connection with their academic work. These gentlemen have continued to aid the Council. Dr. George H. Simmons, who has been a member of the Council since its inception in 1905 and under whose direction the Council was founded, felt compelled to give up active participation in its work. In view of his long and valuable services, the Board of Trustees, at the suggestion of the Council, was pleased to confer on him an honorary life membership in the Council. The following new members were elected to fill the vacancies created by the three resignations: Dr. David P. Barr, professor of medicine at Washington University, St. Louis; Dr. S. W. Clausen, professor of pediatrics, University of Rochester, Rochester, N. Y., and Dr. E. M. Nelson, chief of the Vitamin Division, U. S. Department of Agriculture, Washington, D. C.

Summary

The Council has completed thirty years of service. Conditions today are decidedly better, though there are still some physicians who have not yet fully realized the detrimental influence of certain types of low grade pharmaceutical concerns. However, the scientific standing of the average pharmaceutical house is vastly improved.

During 1935 a number of new and unusual drugs were accepted by the Council for inclusion in New and Nonofficial Remedies.

Useful Drugs and the Epitome of the U. S. Pharmacopeia and National Formulary have been thoroughly revised to bring them into conformity with the new Pharmacopeia and the new National Formulary. They enjoy wide distribution.

The Council has continued the issuance of reports on the status of untried or previously unannounced drugs. It is still looked to for the standardization of new products.

The Council has under way a special investigation of catgut sutures.

The series of articles on Glandular Physiology and Therapy reports on a much needed survey of this field and has been a decided aid in evaluating the status of proprietary and nonproprietary glandular products. The articles have been published in book form. Requests for the privilege of translating the articles have been received from nine different countries.

The Council published two articles on Nonspecific Protein Therapy, which should aid in overcoming the chaotic condition of this subject.

The Council on Pharmacy and Chemistry and the Committee on Foods have formed a Cooperative Committee on Vitamins. This committee has made recommendations on vitamin problems, the decisions on which are soon to be issued. It has been emphasized to physicians as well as to manufacturers that in this field particularly a conservative attitude, based on adequate clinical evidence, is the criterion of sound therapeutic progress.

The Council on Pharmacy and Chemistry, in cooperation with the Council on Physical Therapy and the Committee on Foods, has adopted a reorganization plan which provides for a federation of the administrative work of the three groups and a correlation of overlapping problems.

Physicians are making increased use of the conclusions of the Council on Pharmacy and Chemistry, as evidenced by the increase in work.

Chemical Laboratory

Among the important alterations made in the building of the Association will be those concerned with the Chemical Laboratory. The facilities of the Laboratory will be greatly improved and extended through the provision of a room accurately air conditioned, which will permit micro-analysis, and of a second room properly equipped for physical work of such nature as requires the greater use of optical instruments than has heretofore been permitted. The capacity of the Laboratory will be somewhat enlarged, and with the improvements to be installed the accuracy as well as the scope of the Laboratory's work will be considerably enhanced.

The activities of the Chemical Laboratory have been carried out along previously established lines. A number of important

new products have been examined for the Council on Pharmacy and Chemistry, and the careful scrutiny that has heretofore been maintained with respect to certain widely used products has been continued in order to insure that these products shall be made available to the profession in potent form and in accurate dosages.

A very considerable amount of the Laboratory's work has been concerned with arsenicals and mercurials, bismuth compounds and the examination of dyes and other products of important chemical groups.

The Chemical Laboratory has continued to cooperate as fully as possible with other departments of the Association.

Council on Physical Therapy

For ten years the Council on Physical Therapy has actively prosecuted its assigned work of analyzing, investigating and reporting on physical therapy methods. Through the columns of THE JOURNAL, reports on investigations of apparatus, surveys of physical therapy treatments, and special articles on specific problems have been made available to the profession. In the ten years of its active existence there has been a growing appreciation by the profession of physical therapy.

The interests and activities of the Council in 1935 have been focused on the instruction of the practicing physician concerning effective physical therapy methods, the improvement of curriculums for college physical therapy courses, the development of better modes of treatment, and the consideration of apparatus.

EDUCATIONAL ACTIVITIES

Sixteen articles on physical therapy and related subjects have been prepared by specialists and, after adoption by the Council, published in THE JOURNAL. These authoritative articles have apparently been favorably received by the profession, since numerous requests for reprints of them have been made by inquiring physicians. The Handbook of Physical Therapy is undergoing a thorough revision, and a number of the aforementioned articles will be incorporated in the volume. In all its publications the Council endeavors to point out the importance of physical therapy as an adjunct in treatment, rather than as an all inclusive, independent agency.

The Council has cooperated with the Council on Medical Education and Hospitals in the formulation of standards for curriculums for schools of physical therapy technicians. A registry operated under the direction of the American Congress of Physical Therapy has been prepared, and the two councils have cooperated with the congress in this work. It appears that most class A medical schools have made some provision for physical therapy instruction. Hence the physician of tomorrow will have a working knowledge of this branch of therapy; but for the general practitioner of today who has been out of touch with some of the recent developments, the Council believes that a comprehensive program of extension instruction is needed.

Because a certain number of general practitioners obtain their information on physical therapy through contact men representing manufacturers of apparatus, the Council feels that a very narrow view of the possibilities of physical therapy is imparted to them. For this reason the Council is now in a position to suggest, through its group of consultants on education, qualified speakers on the simple methods of physical therapy which may be practiced by any physician without the use of expensive apparatus. In the opinion of the Council, at least 90 per cent of physical therapy treatments can be given by simple measures, such as heat, massage and exercise. Foregoing personal gain, Council members, consultants and specialists in physical therapy have accepted invitations from state and county medical societies and have donated their services freely, reading papers and giving demonstrations.

Motion pictures dealing with fundamental and practical aspects of physical therapy methods are available for loan. They may be borrowed by writing to the secretary of the Council.

In addition to the exhibit at the regular annual session at Atlantic City, the Council has sponsored exhibits on physical therapy in cooperation with the Bureau of Exhibits of the Association at ten state, county and special medical society meetings.

CONSIDERATION OF APPARATUS

Probably one of the most important educational programs of the Council is the publication of reports on the consideration of submitted apparatus. Many machines are constantly being manufactured and sold to the physician and the public, involving the use of various physical agents, such as high frequency electrical energy, radiant energy and manipulative exercise. The Council investigates such appliances and accepts for its official lists those which are believed to have merit. Any which are believed to be worthless or harmful are made the subject of adverse reports. During the year the Council considered seventy-seven pieces of apparatus. Of this number forty-two were accepted, three were rejected, and the remainder are still under consideration. Other appliances have been submitted to the Council, but the requirements for submission have not been completed by the promoters. Therefore they have not been formally considered. In some instances, devices for which extravagant claims have been made, and which involve nothing new in principle, have been withdrawn from the market as the result of anticipation on the part of the manufacturer of the publication of a disparaging Council report.

A booklet entitled "Apparatus Accepted by the Council on Physical Therapy" has been prepared, in which accepted devices and their indications are given. This booklet has been rather widely distributed to physicians requesting information on accepted apparatus.

Because of the demand for reliable information, the Council has agreed to consider shoes and orthopedic appliances for which claims of a therapeutic nature are made. Therefore, standards for considering shoes have been formulated. Cooperation has been maintained with the Council on Pharmacy and Chemistry and the Bureau of Investigation of the American Medical Association, the Better Business Bureaus of various cities, the National Bureau of Standards, and the American Standards Association. This cooperation has aided the Council in furnishing reliable information.

Consideration of ophthalmologic devices, including lenses and retinoscopes, has been carried on. Some useless devices have been kept off the market through the cooperative efforts of the Committee on Standardization of Instruments and Drugs of the Section on Ophthalmology of the American Medical Association with the Council on Physical Therapy.

In the course of the year the Council has considered positive and negative pressure apparatus, oxygen tents, resuscitating apparatus, infra-red and ultraviolet generators, orthopedic appliances, radium and radon products, and x-ray equipment. Hearing aids and audiometers have been considered by the Council, assisted by the American Society for the Hard of Hearing. The Council is greatly indebted to a number of physicians in various parts of the country, who have rendered most able assistance in promoting its work. Because of the large number of devices that have been considered, the volume of correspondence has greatly increased.

SHORT WAVE DIATHERMY

A large share of the Council's time has been devoted to the consideration of short wave diathermy equipment. In view of the misleading and unwarranted statements formerly made for these devices, the Council was obliged to make a special study of them and report its conclusions. After due investigation the Council went on record to the effect that the therapeutic efficacy of short wave diathermy was attributed only to the heat generated in the tissues of the body and not to any specific biologic or bactericidal effect. Fourteen short wave diathermy machines have been accepted, although at the present time there appear to be some thirty or more manufactured and offered for sale to the profession.

During the past year progress has been made in research. Six grants were awarded. Eleven articles were published during 1935 on specialized fields of physical therapy, as a result of grants awarded the year before. Applications for grants in aid of research may be obtained from the secretary. These grants are awarded for purchasing material and instruments and not for compensation or salaries.

Summary

During the year 1935 the work of the Council on Physical Therapy has been focused on (1) extension instruction for the general practitioner, (2) consideration of apparatus and publication of reports, (3) investigation of new physical therapy methods having a semblance of practicability.

Educational Activities.—Sixteen articles on physical therapy and related subjects prepared by Council members and by other specialists have been adopted and published in The Journal. Most of these articles are included in the thoroughly revised Handbook of Physical Therapy.

This council has cooperated with the Council on Medical Education and Hospitals in formulating curriculums for schools of training for physical therapy technicians and has cooperated with the American Congress of Physical Therapy in establishing a registry for technicians. This important work is designed to maintain high standards in the practice of physical therapy.

Aided by its consultants on education, the Council has suggested to many county and state medical societies qualified speakers on physical therapy subjects. These speakers have stressed the importance of using simple physical therapy methods readily available to the practicing physician, in contrast to the therapeutic value of expensive apparatus. Exhibits on physical therapy subjects have been sponsored at ten county, state and special medical society meetings.

Investigation of Apparatus.—Seventy-seven pieces of apparatus have been considered, of which forty-two were accepted and three were rejected. The remaining thirty-two are still under consideration. Reports have been published on special investigations sponsored by the Council. A booklet entitled "Apparatus Accepted by the Council on Physical Therapy" has been prepared and has been widely distributed to physicians requesting information on accepted products.

Standards have been formulated and adopted for the consideration of shoes and orthopedic appliances. Cooperating with the Committee on Standardization of Instruments and Drugs of the Section on Ophthalmology of the American Medical Association, the Council has investigated lenses, retinoscopes and other ophthalmologic devices.

Apparatus the Council has considered falls into the following groups: infra-red and ultraviolet generators, orthopedic appliances, surgical supports, positive and negative pressure apparatus, oxygen tents, resuscitation apparatus, radium and radon products, x-ray equipment, hearing aids, audiometers, and surgical and medical diathermy apparatus. Of the thirty or more short wave diathermy machines manufactured and offered for sale to the profession, only fourteen have been accepted.

Six research grants were awarded. Eleven articles dealing with physical therapy problems were published in various journals as a result of grants awarded previous to 1935.

Bureau of Legal Medicine and Legislation

FEDERAL LEGISLATION

A summary of federal legislation of interest to physicians was published in the AMERICAN MEDICAL ASSOCIATION BULLETIN **31**:18 (Jan.) 1936. The measures of outstanding importance are the Social Security Act and the Copeland food, drugs, devices and cosmetics bill.

Social Security Act.—This act imposes certain federal taxes on employers and employees. It proposes through the use of a part of the proceeds of such taxation to penalize the inhabitants of such states as do not levy taxes of a similar character, for some of the purposes of the act. The proceeds of such federal and state taxation, supplemented by a considerable addition from money derived from general federal and state taxes, are to be used for old age "assistance," old age "benefits," unemployment compensation, vocational rehabilitation, child welfare services, aid to dependent children, assistance to crippled children, maternal and child health activities, aid to the blind, state public health administrative activities, and research in the field of public health and sanitation.

The taxes imposed by the Social Security Act have no specific relation to practitioners of medicine. Such practitioners are liable for such taxes only as they are employers and employees, and the taxes imposed on them as employers and employees do not differ in any way from the taxes imposed on all other employers and employees. The provisions of the act so far as they relate to the taxation of physicians and hospitals were discussed in THE JOURNAL, Jan. 25, 1936, page 322. An analysis of the act in its entirety was published in the AMERICAN MEDICAL ASSOCIATION BULLETIN **31**:42 (Feb.) 1936. The taxation and subsidy features of the Social Security Act are based on the hypothesis that the federal government has the right, through taxation and state subsidies, to induce or compel states to enact legislation that is in essence dictated by the federal government, for purposes predetermined by the federal government. The soundness of this hypothesis has been questioned, but pending a determination by the United States Supreme Court the medical profession should cooperate in good faith in carrying out the provisions of the act.

Federal Health Insurance.—Specific reference to health insurance was deleted from the Social Security Act before it passed. The act, however, authorizes the Social Security Board to investigate "social insurance," and social insurance covers health insurance. It is quite within the range of possibility, therefore, that the board may in due time undertake the investigation of health insurance. At present (March 17) there is no evidence of its intention to do so.

In the Senate, a resolution is pending before the Senate Committee on Education and Labor, proposing to authorize that committee to make a complete investigation to determine the best and most effective kind of legislation to provide a system of health insurance. In the House of Representatives, a bill proposing a general system of social insurance, including health insurance, for workers and farmers was favorably reported by the Committee on Labor before the enactment of the Social Security Act, for which act it was unsuccessfully offered as a substitute in the course of the debate. It is hardly too much to say that there is no likelihood of any federal health insurance legislation during the current year.

Foods, Drugs, Devices and Cosmetics Legislation.—Seven bills were before the Seventy-Fourth Congress relating to food, drugs, devices and cosmetics. The Senate Committee on Commerce, through a subcommittee, held hearings on the several pending Senate bills and subsequently reported to the Senate, with amendments, S. 5, commonly referred to as the Copeland bill. The Bureau of Legal Medicine and Legislation cooperated to the extent of its ability with the Senate committee and with the Food and Drug Administration of the Department of Agriculture in efforts to bring about the enactment of an effective law. The bill reported, however, in the form in which it was passed by the Senate, gives in its entirety hardly more promise of effectiveness than does the law now in force, the Food and Drugs Act of 1906. So far as it relates to drugs, it is distinctly weaker. The Bureau has made efforts to have the bill amended or rewritten by the House Committee on Interstate and Foreign Commerce, before which it is now pending, so as to make it effective legislation if it is enacted.

Medical and Hospital Care for Employees on Emergency Relief Rolls.—The Emergency Relief Appropriation Act of 1935, approved April 8, 1935, materially modified the medical and hospital benefits provided for employees on emergency relief payrolls. Under an administrative ruling made under the act, unemployed persons were classified as "employable" and "unemployable." Unemployable persons were such as were physically or mentally incapacitated, and unfit for employment even if employment should be offered them. Employable persons were persons not so handicapped. Under the new order, all employable persons were turned back on the several states and their political subdivisions for relief, the federal government assuming no responsibility for their medical or hospital care. For employable persons on relief, the federal government set up an organization which it denominated the Works Progress Admin-

istration, commonly referred to as the WPA. Under the Civil Works Administration, which preceded the Works Progress Administration, all employees had been entitled to the medical and hospital benefits afforded regular employees of the federal government. Under the Works Progress Administration, however, employees are entitled to such benefits only when they are suffering from traumatic injury incurred in the line of duty; for disease contracted in the line of duty, unless it can be traced directly to trauma, the employee is entitled neither to medical nor to hospital benefits. Such medical and hospital care as is provided is given through the United States Employees' Compensation Commission, in accordance with the terms of the United States Employees' Compensation Act of 1916, as amended.

The fact that employees in the Works Progress Administration are entitled to medical and hospital benefits only in event of traumatic injury incurred in the line of duty, and the fact that the compensation paid such employees is ordinarily inadequate to enable them to provide adequately for the care of their dependents, have tended to throw back on the states and their political subdivisions the problem of providing hospital and medical care in such cases, notwithstanding the fact that the head of the household is an employee of the United States government and in receipt of government wages.

Incidentally, a similar situation seems to have risen in connection with the activities of the Rural Resettlement Administration, whose wards in rural resettlement projects seem to have been, in some cases at least, so poorly provided for in the way of money and other benefits as to render it difficult for them to provide adequate medical and hospital service for themselves and their families and to throw on the local community and particularly the local medical profession the problem of caring for them in event of illness, injury and childbirth.

In the discharge of its duties under the Works Progress Administration, the United States Employees' Compensation Commission has cooperated with the Bureau of Legal Medicine and Legislation and with the several national hospital associations in efforts to devise plans whereby to provide adequate medical and hospital care for injured workmen and yet to provide reasonable compensation for the physicians and hospitals rendering service. That the plans worked out have operated satisfactorily, on the whole, is shown by the absence of complaints from individual physicians and from organizations. The only complaint of moment that has been received related to the furnishing of roentgenograms by hospitals, a matter that in some of its aspects has been before the House of Delegates on previous occasions but which apparently has not been settled to the satisfaction of all interested parties.

Veterans' Legislation.—During the first session of the Seventy-Fourth Congress, forty-six bills were introduced proposing to erect either new hospitals or domiciliary facilities for veterans or to enlarge existing facilities. Presumably as a result of the public hearings on these bills, the Second Deficiency Appropriation Bill carried an appropriation of $21,250,000 for hospital and domiciliary facilities. It is not contemplated that any new hospitals will be erected out of this appropriation. According to the report of the House Committee on Appropriations the appropriation is to provide a total of 11,466 beds at thirty-eight existing veterans' hospitals and domiciliary institutions: 6,835 beds for neuropsychiatric patients, 455 beds for tuberculous patients, 2,276 general medical beds and 2,250 domiciliary beds. This represents a building program for a five year period, according to the Administrator of Veterans' Affairs, yet already Congress is being importuned to appropriate still other sums for hospitals for veterans. One bill proposes to erect a 300 bed hospital in western Texas, apparently a general hospital; another to provide for the enlargement of the veterans' hospital at San Fernando, Calif., to accommodate tuberculous patients; a third to construct a new wing of approximately 350 bed capacity on the veterans' general hospital at Los Angeles.

No legislation has been introduced in Congress since the last report to the House of Delegates proposing to enlarge the privileges of veterans with respect to medical care and hospitalization.

Reserve Officers' Training Corps.—Pursuant to action taken by the House of Delegates, action was initiated looking toward the continuation of medical units in the Reserve Officers' Training Corps. The War Department Appropriation Bill, as it passed the House of Representatives Feb. 14, 1936, however, contained the proviso that has been incorporated in all such bills since 1932, prohibiting the expenditure of money from the appropriation for the Reserve Officers' Training Corps, for the maintenance of medical units. As passed by the Senate, that prohibition was eliminated. It seems not improbable, therefore, at the present writing, that the training of medical students for military service in case of need will be resumed at an early date. It is hoped that the medical colleges of the country will cooperate in making such training effective.

Reorganization of Federal Narcotic Service.—For the purpose of increasing the efficiency of the several police services of the Treasury Department, a bill was introduced in the House of Representatives Feb. 25, 1936, proposing to create in that department a Secret Service Division, to be made up of the enforcement division of the Alcohol Tax Unit of the Bureau of Internal Revenue, the Customs Agency Service of the Bureau of Customs, and the Bureau of Narcotics. Under this proposed reorganization, the Commissioner of Narcotics would no longer be responsible directly to an assistant secretary of the treasury but would report to the chief of the Secret Service Division. He would continue to perform, however, all functions performed under treaties to which the United States is a party, so far as such functions require communication or cooperation with foreign governments, all functions relating to cooperation with the states (including the development of state laws), all functions relating to the development of treaties with regard to the supervision and control of traffic in narcotic drugs, and the function of supervising the legitimate traffic in narcotic drugs. In view of strong representations made on behalf of the Treasury Department that the proposed plan of reorganization would contribute materially to efficiency, no sufficient reason appears for opposing the enactment of this bill. The objection raised on behalf of pharmacists and others interested commercially in narcotic drugs, that it would bring legitimate professional and business men under the surveillance of officers and agents of the Secret Service Division, seems hardly sufficient to justify opposition to the plan proposed as a method for increasing the efficiency of the enforcement of certain federal laws, among them the laws relating to narcotic drugs.

Contract Surgeons of the Spanish-American War.—Pursuant to the action of the House of Delegates, the Bureau of Legal Medicine and Legislation has endeavored to obtain for contract surgeons of the Spanish-American War benefits similar to those accorded to other participants in that conflict, more particularly such as have already been accorded to contract nurses. Unfortunately, the beneficiaries of such proposed legislation are not organized and vocal, and the efforts of the Bureau have struck no responsive chord in Congress.

Investigation of Silicosis and Other Occupational Diseases.—Predicated on a considerable number of cases of silicosis alleged to have resulted from the digging of a tunnel at Gauley Bridge, W. Va., a resolution was introduced in the House of Representatives Jan. 13, 1936, proposing to authorize the Secretary of Labor to appoint a board to investigate the health conditions of workers employed in the construction and maintenance of public utilities. The House Committee on Labor, to which the resolution was referred, held hearings on the resolution. The Bureau of Legal Medicine and Legislation brought to the attention of the committee the work on silicosis already undertaken by the United States Public Health Service and by the Bureau of Mines and suggested that representatives of the bureaus named be called before the committee. Following the hearing, the chairman of the House Committee on Labor introduced another resolution proposing to authorize the Committee on Labor, or a subcommittee, to make an investigation concerning the health conditions of workers employed in the construction and maintenance of mining and tunneling projects, with particular reference to silicosis and other respiratory diseases. This resolution is pending before the Committee on Rules of the House. A Senate concurrent resolution proposes that a joint committee, made up of Senators and Representatives, make a similar investigation with respect to the diseases of metal miners. No good reason appears why investigations of this type should not

be conducted either by the Public Health Service or by the Bureau of Mines, or cooperatively by both, instead of by congressional committees.

Birth Control Legislation.—Six bills are now pending in Congress to legalize the dissemination, under conditions stated in the bills, of information, preparations and devices designed, adapted or intended for the prevention of conception. Three bills are pending designed to facilitate the prosecution of persons who send such information, preparations, devices, and indecent and obscene articles through the mail.

STATE LEGISLATION

A survey of state legislation of interest to the medical profession was published in the AMERICAN MEDICAL ASSOCIATION BULLETIN **30**:121 (Nov.), 152 (Dec.) 1935. Throughout the year, when state legislatures were in session, reports of the activities of state legislatures so far as they might have a direct bearing on the medical profession were published in the news columns of THE JOURNAL, and the Bureau of Legal Medicine and Legislation was in constant correspondence with constituent state medical associations in those states to which such legislation related. The more important measures of interest to the medical profession are discussed herewith.

Health Insurance.—Bills proposing the establishment of systems of compulsory state health insurance were considered in the legislatures of six states; namely, California, Illinois, Massachusetts, Nebraska, New York and Pennsylvania. None of the bills considered in those states were enacted. Most of them were patterned closely after the bill described by its proponents as a "Social Security Bill for Health Insurance" but which soon became popularly known as the "Epstein bill," because of the activities of one Abraham Epstein, the secretary of the American Association for Social Security, by which the bill was prepared, drafted and sponsored. California health insurance legislation attracted an unusual amount of attention because it was introduced after a lengthy investigation by a committee of the California senate and was supposed to have the support of the medical profession of the state. During the current year, 1936, at the present writing, health insurance bills have been introduced in two of the nine state legislatures in regular session. These bills have been patterned after the Epstein bill.

Professional Use of Narcotic Drugs.—The uniform narcotic drug act, drafted by the National Conference of Commissioners on Uniform State Laws, with the cooperation of the Bureau of Legal Medicine and Legislation, was enacted in 1935, with or without modification, in nineteen states; namely, Alabama, Arizona, Colorado, Connecticut, Delaware, Georgia, Illinois, Indiana, Maryland, Nebraska, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, South Dakota, Utah, West Virginia and Wisconsin. So far in 1936, the uniform act has been enacted in one state, Mississippi. The act, in its original or in a somewhat modified form, is now in force in twenty-nine states. While there has been an effort to strengthen the act in some states by making it apply to cannabis and by providing for the commitment of addicts, both of which matters the National Conference of Commissioners on Uniform State Laws thought best to leave to the judgment of individual states, in too many cases the tendency has been covertly to weaken the act. The tendency has manifested itself particularly in modifications of the provisions of the model act designed to facilitate the sale of so-called exempt preparations, preparations that because of their relatively small narcotic drug content are allowed to be sold without prescription. Obviously, however, no matter how attenuated may be the narcotic potency of an exempt preparation, it will serve the purpose of a narcotic addict if he can obtain it in sufficient quantity, and the modifications that have been adopted in some states are strongly suggestive of having been designed so as to permit the narcotic addict to do so.

There has been a distinct tendency to add cannabis to the list of so-called narcotic drugs covered by the uniform state narcotic drug act, and, even in states in which that act has not come up for consideration, legislation has been proposed independently to regulate the production, preparation and distribution of cannabis. The drug, according to common reports, seems to be a public menace through its use, under the designation of "mariahuana," for the preparation of cigarets.

Laws prohibiting the sale and distribution of certain hypnotic or somnifacient drugs, except on the prescriptions of licensed physicians, dentists or veterinarians, were passed in Alabama, Arkansas, Colorado, Maryland, Nebraska, Oregon and Pennsylvania. Legislation of this type is now in force in fourteen states.

Pennsylvania took cognizance of the danger incident to the indiscriminate distribution of cinchophen, atophan, atoquinol and dinitrophenol and prohibited the sale of such preparations except on physicians' prescriptions. In California a bill to restrict the distribution of dinitrophenol and of thyroid extract passed the legislature but was killed by the governor through a pocket veto.

Laws Relating to the Practice of the Healing Art.—A basic science act was enacted in Iowa. Medical practice acts were amended in Arizona, Arkansas, California, Connecticut, Georgia, Maine, North Carolina, Oklahoma, Oregon, Pennsylvania and Wisconsin. Laws regulating the practice of osteopathy were extensively amended in Iowa and in New Jersey, which will extend the scope of osteopathic practice. No chiropractic legislation was enacted except in Connecticut, where a law was passed permitting chiropractors to treat patients under the workmen's compensation act. No new naturopathic legislation was adopted.

A physicians' lien law was enacted in North Carolina, permitting physicians to establish liens to secure payment when they treat persons injured through the fault of others, on such settlements and judgments as may accrue to the injured patient by reason of his injuries.

Gunshot and other wounds were made reportable by physicians treating persons so injured in Minnesota and New Hampshire. Reports are to be made to designated police officials.

Hospital Service Corporations.—The formation of corporations to provide on a "nonprofit" basis for the hospital care of their members or subscribers was authorized in Alabama, California, Illinois and Maryland. The Alabama and California laws seem definitely to prohibit the rendering of medical and surgical services by such corporations under their insurance contracts, but the extent of the services that such corporations can render in Illinois and Maryland is not clear.

Workmen's Compensation.—The workmen's compensation act in New York was amended so as to permit an injured employee to select his own physician from a roster of physicians prepared by the industrial commissioner on the recommendation of the medical societies of the several counties of the state. Physicians other than those recommended by such societies may be included on the roster on application to the commissioner. The commissioner is authorized to establish a schedule of fees for medical treatment and care. In New York, too, disability due to occupational disease of any kind in any employment covered by the workmen's compensation act was made compensable. In North Carolina, twenty-five named occupational diseases were made compensable. In West Virginia, silicosis was made compensable.

Miscellaneous Legislation.—Clinical laboratories must be licensed under a law recently enacted in California. In Oregon, a new law provides for the registration and regulation of laboratories in which human or animal body fluids, secretions or excretions are examined for the determination of the presence or absence of infectious agents.

Laws requiring a physical examination of applicants for marriage licenses were enacted in Connecticut and Montana. In New York and Wisconsin, laws were enacted permitting the introduction in evidence, in certain cases, of the results of blood tests. Bills for the regulation of experiments on living animals were introduced in the legislatures of New York, Wisconsin and California but were not passed. Two bills introduced in Congress proposing to prohibit experiments and operations on living dogs in the District of Columbia are still pending.

UNITED STATES DEPARTMENT OF HEALTH

At the Special Session of the House of Delegates in Chicago in February 1935 there was referred to the Bureau of Legal Medicine and Legislation and the Board of Trustees a resolution introduced by Dr. Charles E. Humiston, Illinois, as follows:

"WHEREAS, The general welfare of the people of the United States depends to the highest degree on a favorable condition of the public health; and

"WHEREAS, The health activities which are proper to the federal government are not now closely coordinated but are scattered among a number of unconnected administrative departments; therefore be it

"*Resolved*, By the House of Delegates of the American Medical Association assembled in special session for the sole purpose of giving consideration to the present national emergency, that we urge on the President and the Congress the advisability of bringing all governmental health matters together in a new department under a new cabinet member to be known as the Secretary of Health, such new cabinet member to be a doctor of medicine."—*Proceedings, House of Delegates, Special Session, 1935, pp. 5 and 9.*

The President, Aug. 15, 1935, created an interdepartmental committee to study the health activities of the federal government and closely related welfare activities, with a view to their better coordination. This committee is made up of an assistant secretary of the treasury, an assistant secretary of the interior, an assistant secretary of agriculture and a second assistant secretary of labor. It is authorized and directed "to assume responsibility for the appointment of special committees to be composed of physicians and other technically trained persons within the government service to study and make recommendations concerning specific aspects of the government's health activities." The President expressed the hope that through the appointment of this committee a "complete coordination of the government's activities in the health field" might be effected. Up to present writing the committee has not submitted its report.

More recently, Feb. 26, 1936, under authority of a Senate resolution, the vice president appointed a special Senate committee to investigate all executive agencies of the government with a view to their coordination. This, of course, includes the agencies carrying on the public health activities of the government. The committee consists of Senator Byrd of Virginia, Senator Robinson of Arkansas, Senator O'Mahoney of Wyoming, Senator McNary of Oregon and Senator Townsend of Delaware. No report has been made by this committee up to present writing.

In this connection it seems proper to call attention to the extent to which the United States Public Health Service is now authorized to cooperate with the various other branches of the executive department and the independent offices of the federal government and with state agencies in the solution of their medical problems. This limits, of course, the tendency toward the development of independent medical services in other branches of the government.

The law now provides that, on the request of the head of an executive department or an independent establishment which is carrying on a public health activity, the Secretary of the Treasury may detail officers and employees of the Public Health Service to such department or independent establishment, to cooperate in such work. It provides specificially for the detailing of medical officers of the Public Health Service for cooperation in health, safety and sanitation work in the Bureau of Mines and for cooperation with the Department of Agriculture in the administration of the Food and Drugs Act of 1906, as amended. The Secretary of the Treasury is authorized and directed, furthermore, to utilize the personnel of the Public Health Service, so far as may be possible, in aiding to combat and suppress "Spanish influenza" and other communicable diseases, in conjunction with the personnel and the facilities of the medical departments of the army and the navy, acting under the authority of the Secretary of War and the Secretary of the Navy, respectively.

The Surgeon General of the Public Health Service is authorized to cooperate with state and territorial boards of health, quarantine authorities and health officers of the several states and of the District of Columbia, and he may be required, on the application of not less than five of such authorities, to call a conference in the interest of public health. The law authorizes the Surgeon General to extend the facilities of the Public Health Service to health officials and scientists engaged in special study.

Affiliated with the Public Health Service is the National Institute of Health, which is the successor of the Hygienic Laboratory of the service. The institute has an advisory council, the National Advisory Health Council, to advise the Surgeon General with respect to public health activities and to consult with him concerning the investigations to be undertaken by the service and the methods of conducting them. This council consists of three experts detailed from the army, the navy and the Bureau of Animal Industry, by the Surgeon General of the army, the Surgeon General of the navy and the Secretary of Agriculture, respectively, the director of the National Institute of Health, ex officio, and five members, not in the regular employment of the government, appointed by the Surgeon General of the Public Health Service, with the approval of the Secretary of the Treasury, skilled in laboratory work in its relation to public health.

Under the provisions of law as set forth, medical officers of the United States Public Health Service are now functioning in various civil branches of the federal government, the only independent public health service of any considerable magnitude being that of the Children's Bureau in the Department of Labor. An enlargement of the independent public health activities in the Department of Labor was threatened in a resolution introduced in the House of Representatives authorizing the Secretary of Labor to appoint a committee to investigate the prevalence of silicosis and certain other diseases incident to industry. This resolution, however, gave way to another authorizing such an investigation but providing that it should be made by the Committee on Labor of the House of Representatives. At the present writing this resolution has not been adopted. A similar resolution is pending in the Senate, looking toward the making of a similar investigation by a joint committee of the Senate and the House of Representatives, which likewise is awaiting action. A congressional investigation by a committee organized as is proposed by either of the resolutions referred to would doubtless avail itself of the resources of the Public Health Service in carrying on its work.

In view of the facts set forth and of the generally disturbed state of the machinery of the executive branch of the federal government on account of its ventures during recent years into new fields and its enlargement of old fields, the time seems hardly opportune to press for legislation looking toward the establishment of a department of health; and to propose that the President be limited to a single profession in his choice of a secretary of health would be without precedent in the appointment of a member of the cabinet. It seems now better to conserve and to promote the federal medical organization that exists and to bring into it as opportunity offers the important medical work of the Children's Bureau in the Department of Labor, rather than to undertake to procure the establishment of a department of health.

INTEGRATION OF THE MEDICAL PROFESSION

At the session of the House of Delegates at Atlantic City in June 1935 there was referred to the Board of Trustees for study, report and recommendation the matter of the so-called integration of the medical profession. The Board has to report that there have been no developments during the past year along the line of the integration of the profession. The House of Delegates is reminded that by the term "integration of the medical profession" is meant the organization by statute of all licensed practitioners of medicine within a state into a public corporation, authorized by law to determine who is and who is not eligible for admission into the profession and to supervise the conduct of every practitioner after he has been admitted, reprimanding practitioners and suspending and revoking their licenses as circumstances dictate. All functions of the medical examining and licensing boards of the states at the time of integration would be taken over by the integrated agency.

No adequate plan has been proposed whereby all persons engaged in the practice of the healing art, nonsectarian and cult practitioners alike, might be brought into a single effective integrated agency and compelled to adhere to proper standards. Your Board of Trustees is not satisfied that the integration of the medical profession alone, without the integration of all cult practitioners into the same body, would effect any good purpose or any advantage to the medical profession or to the public, and the Board knows of no way in which cult practitioners could be incorporated in any effective regulatory body on any terms that they would be likely to accept. To propose a plan of integration that would provide for the regulation of cult practice along rational lines would only arouse antagonism and bring into

activity their combined political resources and probably prevent the adoption of the plan. The Board does not believe that it would be advisable in the present state of affairs to advise state associations to undertake such contests. In some states, they may be advisable. Your Board of Trustees recommends, therefore, that the matter of integration be kept in abeyance, for further study and for action if circumstances arise, except as in particular states local conditions may indicate a different course.

FREE CHOICE OF PHYSICIAN

The House of Delegates, at its special session in Chicago in February 1935, referred to the Bureau of Legal Medicine and Legislation a resolution offered by Dr. John W. Amesse, Colorado, instructing the "appropriate officers and the legislative committee" of the Association to bring to the attention of the President of the United States and his advisers a request that proper steps be taken to provide for employees on federal projects free choice of physician. This matter must be considered in the light of the status of such projects; that is, according as they are being carried on directly by the federal government through its own employees or are being carried on through contracts.

If a federal project is being executed by employees of the federal government, then, under the United States Employees' Compensation Act of 1916, as amended, in event of disability incurred in the line of duty, the injured employee, if he is entitled to medical and hospital services, must be treated by a medical officer of the United States government and in a United States government hospital, if treatment can be so provided. Only in the event that it cannot be so provided may an injured employee be treated by other physicians and in other hospitals, and then only by physicians and hospitals approved or recognized by the United States Employees' Compensation Commission.

If public works are being carried on by the federal government under contracts and through contractors, the matter of providing medical and hospital care for injured employees devolves on the contractor, not on the federal government. Under such circumstances it is regulated by the workmen's compensation act of the state in which the contractor's activities are carried on, and the question whether the disabled employee has or has not the right to choose his own physician depends on the law of that state,

Strangely enough, labor, which has been insisting on its rights with respect to so many things, seems to have been willing and to be willing to submit to the deprivation of what might almost be called a natural right; namely, the right to determine who shall and who shall not treat a workman when he is injured in the course of his employment. In view of that fact, in view also of the state of flux in which the activities of the federal government have been carried on during recent years and are now being carried on, and in view of the nature and extent of the sentiment and pressure for the enactment of medical legislation inimical to the best interests of the people, as well as of the medical profession, such as health insurance legislation, it seems to be inopportune now to enter on a contest for the establishment of the right of the disabled employee of the federal government to choose his own physician.

COOPERATION WITH STATE AND COUNTY ASSOCIATIONS

The Bureau of Legal Medicine and Legislation has received the active support and cooperation of the several state and county medical societies affiliated with the American Medical Association and of many individual members of the organization. It has endeavored to render efficient service to all of them so far as its resources would permit. The result—flattering, if at times inconvenient—has been constantly increasing demands on the Bureau. It must be recognized, however, that the Bureau cannot undertake to furnish legal advice to individual members of the Association concerning their personal legal problems. If it did so, the Association might readily be charged with being a corporation engaged in the practice of law, and the staff of the Bureau of Legal Medicine and Legislation would be open to the charge of aiding and abetting in the unlawful practice of law and of unethical practice. It would be far better for every state and every county association to employ its own legal adviser, referring to the Bureau of Legal Medicine and Legislation, preferably through counsel, the problems in which the Bureau may be of service. State and county associations, too, might well undertake to answer directly many of the questions that are propounded by their members to the Bureau of Legal Medicine and Legislation, for by doing so they would better impress on their members the value of the service rendered by the state and county association. Possibly it would be well for the Bureau of Legal Medicine and Legislation to conduct its correspondence with persons residing in any given state only through the office of the state medical association. In that way it would be relieved of much of its detail work and have more time for the study of the larger problems of the profession.

Summary

1. Social Security Act.—The Social Security Act is now law. Until it has been declared unconstitutional by the courts or repealed by Congress, physicians should cooperate in good faith to carry it into effect. The act does not refer to health insurance. It does authorize the Social Security Board to investigate and report concerning social insurance, and under this authority the board can investigate and report on health insurance. There is, however, no evidence of any immediate intention to do so.

2. Federal Food and Drugs Legislation.—Legislation relating to food, drugs, devices and cosmetics has developed to a stage at which one bill, the so-called Copeland bill, S. 5, has passed the Senate and is pending in the House of Representatives, before its Committee on Interstate and Foreign Commerce. On the whole, the bill passed by the Senate gives no promise of protection to the people more effective than that afforded by the Food and Drugs Act of 1906, which this bill is intended to supplant. The provisions of the pending bill with reference to drugs are distinctly weaker than are those now in force. An effort is being made to bring about a revision or rewriting of this bill so as to make it accomplish the purpose for which it is intended.

3. Medical Service for Works Progress Administration Employees.—Under the Emergency Relief Appropriation Act of 1935, the federal government has undertaken to provide work for unemployed persons in necessitous circumstances who are physically and mentally capable of working. It has turned back to the states all unemployed persons in such circumstances who are physically or mentally unfit for work. Under the Works Progress Administration, employable persons are being employed in large numbers but at wages apparently insufficient to enable them to provide themselves and their dependents with the necessaries of life, including medical and hospital service; and the Works Progress Administration provides medical and hospital service only for traumatic injury in the line of duty. The result is that employees of the Works Progress Administration are often dependent on their respective states and the political units of such states, and on private charity, including the charity of physicians, for medical and hospital service. Until the administration pays more liberal wages there will be no relief from this situation, and physicians, in accordance with the best traditions of the profession, must see that no deserving person suffers unnecessarily for lack of medical and hospital service. Medical and hospital service for unemployable persons rests in any case primarily on the state and its political subdivisions, with which physicians must cooperate to work out the most effective methods of providing medical and hospital service, with justice to the beneficiaries, the medical profession and the public.

4. Medical Service for Wards of the Rural Resettlement Administration.—In the Rural Resettlement Administration a condition exists similar to that described as existing under the Works Progress Administration. Persons located on rural resettlement projects seem to be so limited in income as to be unable to provide medical and hospital services for themselves and their dependents. Apparently, they must depend on the states, the political subdivisions of the states, and the local medical profession for medical and hospital aid, gratis or at prices

within their reach, even while they are endeavoring to establish themselves on these federal projects, with the aid of the federal government.

5. Medical Units in Reserve Officers' Training Corps.—Medical units in the Reserve Officers' Training Corps will be reestablished if the War Department appropriation bill is accepted by the House of Representatives in the form in which it has passed the Senate.

6. Industrial Medicine in Department of Labor.—The proposed authorization of the Secretary of Labor to appoint a board to investigate the health conditions of workers employed in the construction and maintenance of public utilities, notwithstanding the effective work of the bureau of the Public Health Service in the field of industrial medicine, has now assumed the form of a proposed investigation of the subject, either by a committee of the House of Representatives or a joint committee of the Senate and the House of Representatives. The matter is now pending in both houses.

7. Reallocation of Federal Bureau of Narcotics.—The Federal Bureau of Narcotics will become a unit in a newly created Secret Service Division of the Treasury Department, if pending legislation is enacted. It will, however, retain by statute the function of supervising the legitimate traffic in narcotic drugs and certain other functions having to do with such drugs from other than criminal standpoints. The fear expressed by some that this reallocation of the Bureau of Narcotics would lead to an objectionable surveillance of physicians by secret service officials is not shared by the Board of Trustees.

8. Pensions for Contract Surgeons, Spanish-American War.—No progress has been made toward procuring for contract surgeons of the Spanish-American War pensions for disability due to age, similar to the pensions already provided for contract nurses who served in that war. Such contract surgeons, unfortunately not organized, seem to be unable to plead their own cause effectively, and efforts to arouse an interest in this matter on the part of the committee of Congress before which it properly comes have proved unavailing.

9. Legislation Pertaining to Contraception.—Bills are pending in Congress to legalize the dissemination of information, preparations and devices to facilitate the prevention of conception. Other pending bills are designed to facilitate the prosecution of persons who send by mail indecent and obscene articles and contraceptive information, devices and preparations. The Association has taken no part in the activities that have been carried on for the promotion or for the defeat of such legislation.

10. Hospitalization and Medical Services for Veterans.—Enacted legislation provides for an increase in the number of beds for veterans of the World War, generally for veterans suffering from neuropsychiatric and tuberculous diseases. The program contemplates construction during the next five years to provide for 2,276 beds for general and surgical cases, at existing hospitals. Three pending bills propose to provide additional hospital facilities.

11. State Health Insurance.—In seven states, bills were proposed looking toward the establishment of compulsory systems of state health insurance, but none have been enacted. Most of these bills have been patterned after the so-called Epstein bill.

12. Uniform Narcotic Drug Act.—The uniform narcotic drug act, approved by the American Medical Association, was adopted in 1935 in nineteen states, with or without modification. It is now in force in twenty-nine states. There is a tendency to make such legislation applicable to cannabis and to include in it provisions for the commitment of addicts, which do not appear in the bill as originally drafted. Unfortunately, there seems to be a tendency, too, to weaken the provisions of the bill, particularly with reference to the sale of so-called exempt preparations, in a way that will tend to make those preparations more readily obtainable by narcotic addicts.

Laws undertaking to regulate the sale and distribution of certain hypnotic or somnifacient drugs, notably drugs depending for their potency on barbituric acid derivatives, were enacted in seven states. Legislation of this type is now in force in fourteen states.

13. Laws Relating to Practice of Healing Art.—Medical practice acts were amended in eleven states. A basic science law was enacted in Iowa. Osteopathic practice acts were extensively amended in Iowa and New Jersey, enlarging the rights of osteopaths.

A physicians' lien law was enacted in North Carolina, enabling physicians to establish liens to secure payment for services rendered persons injured by accidents for which other persons are responsible.

Gunshot and other wounds were made reportable to police officials by physicians treating persons so injured in Minnesota and New Hampshire.

14. Hospital Service Corporations.—The organization of hospital service corporations to provide for hospital care for their members or subscribers was authorized in Alabama, California, Illinois and Indiana. The purpose of these corporations is to provide hospital service when necessary for periodic payments of stated amounts, made by members or subscribers in advance of the actual need.

15. Workmen's Compensation Acts.—Workmen in New York entitled to medical service under the workmen's compensation act are authorized by a recent act passed to select their own physicians, the choice being limited, however, primarily to physicians whose names appear on rosters prepared by the industrial commission with the cooperation of county medical societies. The industrial commissioner is authorized to establish a schedule of fees for medical services. In New York provision was made for compensation for disability due to occupational diseases of any kind. In North Carolina, disability due to any one of twenty-five occupational diseases was made compensable; in West Virginia, disability due to silicosis was made compensable.

16. Licensing Clinical Laboratories.—Under a recently enacted California law, clinical laboratories must be licensed. In Oregon a new law requires the registration and regulation of laboratories.

17. Evidence of Blood Tests Admissible.—The introduction in court in evidence of the results of certain blood tests was authorized by statute in New York and Wisconsin.

18. Animal Experimentation.—Bills for the regulation of experiments on living animals were introduced in New York, Wisconsin and California, but none were passed. Two bills are pending in Congress proposing to prohibit experiments on living dogs in the District of Columbia.

19. United States Department of Health.—In view of certain government investigations now under way, looking toward the reorganization of the executive departments and offices of the federal government, one of which has particular reference to the reorganization of the health service, it is believed to be inexpedient for the American Medical Association to seek the establishment now of a United States department of health, with a cabinet officer at its head.

20. Integration of Medical Profession.—No new developments have appeared concerning the integration of the medical profession. No way has been developed for the integration of all practitioners of the healing arts in such a way as would bring the cult practitioners under rational supervision and control, and, unless they can be incorporated in any scheme that may be developed for integration, the effectiveness of integration as a means for protecting the public from incompetent practitioners is at least doubtful. This matter may well be kept under observation.

21. Free Choice of Physician by Disabled Federal Employees.—Although employees of the federal government, including employees of the Works Progress Administration, are limited in their choice of physicians and hospitals to government medical officers and hospitals or physicians and hospitals recognized and approved by the United States Employees' Compensation Commission, the time does not seem opportune for agitation to procure

for such employees a broader right to choose. The federal government employees themselves seem to be uninterested in the matter.

22. Cooperation by State and County Associations.—The Bureau of Legal Medicine and Legislation has received the active support and cooperation of state and county medical societies and individual members of the Association. It cannot, however, give legal advice to individual members of the Association concerning personal legal problems. It may be questioned whether the Bureau might not with advantage limit its reply to inquiries received from correspondents—whether the members of the Association, subscribers, hospitals or others—to such inquiries as have been directed to the proper officer or officers of state associations and forwarded through such officer or officers to the Bureau.

Bureau of Medical Economics

The Bureau of Medical Economics has been under a constant stress during the past year investigating economic problems, preparing reports for distribution to the medical profession and advising physicians throughout the country concerning special medical economic problems in various states. This was especially true concerning sickness insurance. During the latter part of 1934 and the first half of 1935 approximately 182,000 reprints of the Bureau of Medical Economics pertaining to sickness insurance were circulated through medical societies and individual physicians and a considerable number were sent directly to lay persons throughout the United States; this circulation was in addition to the articles published in THE JOURNAL and the BULLETIN.

MEDICAL SERVICE PLANS

The report of the reference committee adopted by the House of Delegates at the special session on Feb. 15 and 16, 1935, suggested that the Board of Trustees request the Bureau of Medical Economics to study further the county medical society service plans then existing and such as might develop. This study was made and the report was presented to the House of Delegates at the Atlantic City session. With but few changes suggested by the Reference Committee on Medical Economics, the report was adopted as presented.

At the time this study was made, many county medical societies had progressed in their consideration of medical service plans no further than to make a survey of their local requirements or to study the plans about to be adopted elsewhere. For this reason it was impossible to include in the report any very definite pronouncements as to the success of such plans. Experience is needed to provide answers to such questions as the costs of operation, the quality of service rendered, the applicability of the plan to the locality in which it operates, the effects on the medical profession, and the way in which the plan meets the community needs. It is also desirable to know whether a medical service plan constitutes the major activity of the county medical society, supported to the exclusion of other proper interests, or whether such a plan is merely a part of a well planned program of medical society activities in which all phases of medical practice and community welfare are accorded proportionate emphasis. The opinion is offered that the study of medical service plans should be continued with the object of securing as promptly and as accurately as possible answers to these questions. A study is now in progress to show all phases of county medical society activities in certain localities in which medical service plans are operating. An attempt is being made also to determine the measure of success attained by medical service plans.

DISTRIBUTION OF PHYSICIANS

During the past year the Bureau's publication entitled "Distribution of Physicians in the United States" has been well received by a large number of persons and organizations interested in some phase of the distribution of physicians in this country. This is the most recent attempt to show the distribution of all the physicians enumerated in the American Medical Directory. The most complete previous study was made by Lewis Mayers and Leonard V. Harrison in 1924 and was published by the General Education Board under the title "The Distribution of Physicians in the United States." The study by Mayers and Harrison is valuable for the comparisons it affords with distribution in 1923 and some previous years, chiefly 1906.

Some of the general conclusions drawn from this study are as follows:

The population per physician appears to be increasing; in 1890, according to the best available information, the population per physician was 629, whereas in 1931 it was 785.

The number of graduates in medicine is increasing steadily; the low point was reached in 1922 with 2,500 graduates; in 1931 there were 4,735 graduates and in 1935 the number had increased to 5,101. These figures suggest that the population per physician may show a downward trend for the years since 1931.

The percentage of all physicians in active practice who in 1931 were classified as limited specialists was 16.5. The largest percentage of limited specialists in a geographic subdivision of the United States, 19.8, was found in the Pacific states. The lowest percentage, 11.9, was found in the East South Central states.

The largest number of physicians classified as limited specialists were found to be practicing in diseases of the eye, ear, nose and throat. The smallest number were found in bacteriology.

A comparison of the distribution of physicians according to size of community for 1931 with a similar distribution for 1906 shows that, whereas in 1906 there were 29.5 per cent of all physicians practicing in communities of less than 1,000 population, in 1931 there were only 13.4 per cent of all physicians in communities of this size. The same tables show that in communities with a population of 100,000 and over there were 29.8 per cent of physicians in 1906 and 46.2 per cent in 1931. These figures seem to indicate a very appreciable drift of physicians away from the rural and small communities to the larger urban and metropolitan centers.

It appears that the largest percentage of physicians practicing in communities with a population of 10,000 and less are between the ages of 30 and 39 years.

The distribution of physicians by states according to population per physician compared with the average income in dollars per person indicates that as the average income per person decreases the number of persons per physician increases. These data seem to confirm the general observation that the number of physicians which can be supported by a community depends, to a large extent, on the amount of individual spendable income.

Neither of these studies constitutes a complete study of the distribution of physicians. It is proposed to assemble additional data to show the number and distribution of women physicians, Negro physicians and irregular practitioners, the distribution of physicians according to years in practice by size of community and by specialty, and the number of physicians serving in full time positions.

MEDICAL RELATIONS UNDER WORKMEN'S COMPENSATION

During 1935 there were several successful efforts on the part of medical societies to effect better relationships between the medical profession and various bodies dealing with or enforcing workmen's compensation statutes and regulations; in several states, statutes and regulations were changed. In 1933 the Bureau of Medical Economics published a report entitled "Medical Relations under Workmen's Compensation." This publication has had wide distribution and use. When it became necessary to print a second edition of this report, a chapter was added giving briefly the changes in workmen's compensation during 1933 and 1934 and the first half of 1935. It is proposed to revise this report periodically to include the current changes in workmen's compensation legislation and regulations.

CARE OF THE INDIGENT SICK

The report on the Care of the Indigent Sick was prepared and published late in 1934. In this report an attempt was made to trace the historical origin of some of the present-day problems in the medical care of the indigent and to call attention to some of the standards that should be used to determine the receipt of free medical care. At this time the federal government had assumed some responsility in the care of the indigent through the Federal Emergency Relief Administration. In the first edition of the publication "Care of the Indigent

Sick" the most accurate information obtainable was included to show the way in which the various states had developed plans based on federal rules and regulations to meet this emergency in cooperation with the Federal Emergency Relief Administration.

When it became necessary to issue a second edition of "Care of the Indigent Sick," the emergency medical relief measures had been complicated by rules pertaining to the Civil Works Administration, the Public Works Administration and later the Works Progress Administration. Since medical societies had not had sufficient time to develop plans or even to determine courses of action based on regulations promulgated by these later federal agencies, it was thought unwise to include in the second edition any description of medical services under the new regulations but to review them at some later period when more definite data might be obtainable.

UNIVERSITY AND COLLEGE STUDENT HEALTH SERVICE

Among the reports of the Committee on the Costs of Medical Care is a study of "University Student Health Services," in which the statement is made that facts are revealed which "have considerable significance in indicating certain important advantages to be gained by organization and by periodic payments for the essential elements in medical care."

A study of student health services may be divided into two phases: one, an evaluation of the quality and effectiveness of service rendered and the extent to which the service meets the needs of the students, and the other a statistical study of costs, morbidity among students, extent to which students utilize the facilities of the student health service, number and classification of persons covered by the health service arrangements, the number and type of personnel engaged in providing the services, and many other important items.

It is stated in the committee's study that "no attempt has been made to determine the effectiveness of the service or to ascertain the extent to which the medical care provided meets the needs of the local student body." The number of universities studied (only six universities from several hundred universities and colleges) can scarcely be accepted as sufficient to provide an amount of data from which to draw statistically reliable conclusions for student health services throughout the United States. The study may therefore be considered as merely a descriptive analysis of the health services of six universities varying in size from about 3,000 to slightly over 10,000 student population.

The Board of Trustees in 1934 requested the Bureau of Medical Economics to make a study of student health services in all the leading colleges of the United States. Accordingly, the study was begun by compiling a list of colleges that maintain a student health service. The list of colleges and universities comprises institutions accredited by the Association of American Universities, member institutions of the American Student Health Association, and colleges for Negroes approved by a special committee of the Division of Higher Education of the United States Bureau of Education. To these colleges and universities a schedule was sent requesting information desired for the study. Some universities were visited to observe the methods used in the operation of their health services, the type and amount of equipment, and to gather an impression of the atmosphere surrounding the student health service departments. Some universities sent well prepared analyses of their services, which have been very helpful.

The report of the Bureau is based on data taken from the schedules returned by 238 colleges and universities and seventeen colleges for Negroes. The subject matter of the report is arranged according to the following main headings:

Introduction.
The Evolution of Student Health Services.
The Health Program Under Student Health Services.
The Status of Student Health Services.
Health Services and the Medical Field.
Summary and Evaluation.

From the data available, several features of student health service are apparent: (1) There has been, during the last decade, a steady increase in the number of institutions maintaining student health services; (2) there appears to be a surprisingly large amount of capital invested in buildings and equipment devoted to health and medical services for students; (3) there seems to be a general tendency to develop health and medical services in colleges and universities on an institutional rather than a geographic basis; (4) there seems to be evidence to show that the health instruction of students—presumably the primary function of a student health service—has not always been done as well as might be expected of institutions of higher learning; (5) it is impossible to find any universally accepted measure of performance or accomplishment by which the programs and benefits of student health services may be judged; (6) it appears that a very large percentage of universities and colleges are actually engaged in the practice of medicine in varying degrees, and (7) the number of instances in which a practical cooperative arrangement has been effected between the college and the county medical society of the college community for the medical care of students seems to be lamentably small.

Each service seems to have been specially developed to satisfy the ideas and desires of those who formulate and direct the policies of each separate institution. Neither the organization nor the conduct of student health services seems to have followed any generally accepted principles or objectives except to provide students with some sort of health instruction and variable forms and degrees of medical advice and care. In some instances both the health instruction and the medical care seem to have been creditably done; in others the methods and results in both these phases of student health service appear to be questionable.

One of the most serious tendencies in student health service is the inclination to adopt the institutional method of providing medical care. If this method were to be generally accepted and adopted, it would lead to almost endless confusion. On this basis it is conceivable that every social, industrial, commercial, religious, fraternal, cultural or other form of institution would be justified in developing its own special medical service. Such a method would bring with it an almost endless amount of duplication, redundance, omission and confusion. Continuous, intimate personal relations between physicians and their patients would be extremely difficult if not quite impossible to maintain. Change of employment or institutional membership would mean also a change of personal medical adviser; institutions and not the medical profession would control and direct medical practice.

College and university students represent a select group of the population which, for several reasons, should show a low morbidity rate. Moreover, most students are associated with institutions of higher learning for only a relatively short period of their lives. One of the primary purposes for which students attend educational institutions is to acquire information. In this respect colleges and universities are entirely justified and may well be encouraged in providing facilities for health instruction. Medical advice and care are by no means synonymous with health instruction. Students are subject to many of the same forces that affect the general population, and they often need medical care. It is suggested, therefore, from this study of available data that, in the interest of good public policy as well as of good medicine, an effort be made to establish some fundamental principles that can be accepted and applied in the correct provision of medical care to this section of the population.

GROUP HOSPITALIZATION

The subject of group hospitalization has been commanding attention since late in 1930. While commonly thought of as any plan under which a number or group of individuals make periodic payments to a fund to enable each individual to receive hospital care when needed, it is evident that this concept must be more narrowly defined because under it can be included industrial health services, mutual benefit associations, trade union plans, university health services, fraternal or lodge plans and any type of plan under which patients are hospitalized other than in the traditional fee per patient manner. A clarified definition is not a basis for conclusions, but it does point out a course of investigation.

Group hospitalization by its very name connotes that the relationship is one of direct arrangements between hospitals and groups and that hospital care alone is the service bargained for. Group hospitalization, then, is a plan whereby a hospital

or an association of hospitals contracts with classified groups of people to furnish hospital care when needed in return for the periodic payment or prepayment of a stipulated sum by each member of the group. A bona fide group hospitalization plan, as defined, should exclude all professional or medical services of physicians or surgeons, pathologists, roentgenologists, anesthetists and special nurses. The control of the service provisions and membership funds should be in the hands of those who can render the service; namely, the hospitals or an association properly representative of the hospitals and the medical profession.

The first type of plan was that of a single hospital which offered specified services to groups of persons, without utilizing a sales agency, at lower rates than individuals could independently purchase similar services. The prepayment or group budgeting idea gained favor, and plans developed in many sections of the United States.

Commercial organizations, whose interest in making hospital service more available was secondary to the profits they envisioned, began promoting plans and organized and conducted membership drives. The abuses caused by commercialization and the prospective defects of group hospitalization plans were called to the attention of the medical profession, hospital administrators and the public in the report on "New Forms of Medical Practice," an outline of schemes that were being utilized to "organize" and institutionalize the practice of medicine. These defects were later emphasized by the studies entitled "Prepayment Plans for Hospital Care" and "Group Hospitalization Contracts Are Insurance Contracts," which appeared in THE JOURNAL during 1933.

The realization of some of the possible untoward effects of unsound and commercial plans, and the recognition that group hospitalization contracts were insurance contracts in the majority of the states, caused some modification of the utopian claims for the plan.

The nature of the contract and the type of administrative organization for hospitalization plans are of vital concern to the medical profession. The medical profession is opposed to any plan that will destroy the basic features of medical service or will permit hospitals to enter the practice of medicine. If hospitals are permitted to include medical care in their contracts for hospital service, the precedent is set for institutionalized contract medical practice with all its destructive effects on the art and science of medicine. In at least twenty communities, county or state medical societies are active in the organization and control, or have given approval after close observation, of the administration of the hospitalization plans. In many other localities the plans have at least been studied and some action taken by county or state medical societies.

The protagonists of group hospitalization have created the erroneous impression that the medical profession opposes all group hospitalization plans. Those plans offered by community-wide, noncommercial associations of hospitals, designed to offer hospital facilities to low-income groups in a manner and at a cost commensurate with knowledge gained from experience and sound advice, which have a representation of the local medical profession in the administration to assure the exclusion of features objectionable to the practice of medicine, have encountered no serious obstruction on the part of medical societies. The most encouraging progress in group hospitalization has been made by these plans.

The theory of the insurance principle in the provision of hospital service appears to be reasonable, but the application of this principle introduces many inherent dangers that should not be overlooked. The determination of actuarially sound bases for premium rates, the careful selection of risks and the wise handling of funds are insurance duties that cannot be lightly undertaken by the inexperienced. The fixation of charges for all hospitalization at a level too low to be compatible with good hospital service, the solicitation of patients and the competition between hospitals with different plans, the diversion of funds to sales agencies or to profit taking corporations, the placing of undue emphasis on hospitalization, and the possibility of keeping active some undesirable institutions are but a few of the objectionable features, in addition to the more important dangerous tendencies that have been mentioned.

Unfortunately, there are no reliable indexes available by which to judge the value of group hospitalization. There seem to be no accurate and dependable data available concerning the cumulative experience of this new method of providing hospital facilities for the sick.

The Bureau of Medical Economics, through the Council on Medical Education and Hospitals, has instituted a survey in an attempt to analyze the experiences of group hospitalization plans and to prepare a report that may be useful to the administrators of present plans and to those who desire to organize new plans. On Jan. 1, 1936, the Bureau had compiled from various sources a list of group hospitalization plans that either had been proposed or were in operation or had been discontinued after a period of operation. A schedule was sent to each of these organizations requesting specific information as to the present status of the plan.

At the present time sixty-six schedules, approximately 46 per cent of the total sent, have been returned. The sixty-six schedules returned indicate that twenty-three plans are in operation, five have been consolidated with existing plans, four are still proposed or under consideration, four were once in operation but are now discontinued, and thirty are not now in existence, either having never existed or the schedule was returned marked "not in directory" or "moved, left no address."

Information secured from various sources seems to indicate that there were 144 plans, with 512 associated hospitals, located in 107 communities throughout thirty-two states and the District of Columbia. Definite information has been received from sixty-six plans; of the remaining seventy-eight plans that have not returned their questionnaire the Bureau has reasonably definite information concerning only thirty-one. It is believed that the remainder will prove to be either nonexistent or inactive.

Recent information has brought nineteen additional plans to our attention; seventeen are proposed and two are in operation. These plans have had no experience and were not included in the survey.

The returns to date suggest that the importance of group hospitalization plans has been overstated when measured by the actual number of plans in operation and the number of members enrolled. The returned reports also suggest that there has been only a semblance of an effort to keep records of experience or to prepare accurate financial statements, and it has been difficult to find sufficient actuarial data on which to base sound premium rates. Although group hospitalization properly organized and operated may in some communities serve to supplement existing medical facilities, the plan must not be considered a panacea for the medical economic ills of a community, and extreme caution must be exercised if many of the evils and destructive elements that have attended other new forms of medical practice are to be avoided in these undertakings. When all plans that have had any experience return their schedules, a report of the results will be completed.

RELATION OF MEDICAL ETHICS AND MEDICAL ECONOMICS

Practically all economic transactions involve an ethical implication, good or bad. Many of the principles of medical ethics carry some economic implication.

Since ethics and economics seem to have a definite relationship, an endeavor has been made to set forth these relations in a report entitled "Economics and the Ethics of Medicine."

This report begins with a discussion of the ethics and economics of industry, business and commerce. This chapter is followed by an analysis of the Oath of Hippocrates, with some reference to the similarity of the wording of the oath in the Greek, Arabic, Latin and East Indian. The development of medical ethics is then traced in modern times. A chapter is devoted to the medical group and the influence which ethical principles have exercised in cementing and maintaining physicians in an organized group.

The remainder of the report is devoted to an examination of the economic implications in the Principles of Ethics of the American Medical Association.

DEBATE ON STATE MEDICINE

In March 1935 the National University Extension Association Debate Committee announced the national debate subject for 1935-1936. The proposition is *Resolved*, That the several states

should enact legislation providing for a system of complete medical service available to all citizens at public expense. It is estimated that this proposition will be debated by more than 100,000 students in high schools, colleges and universities throughout the United States during the present school year. The debaters will be heard by large and small audiences, in auditoriums and over the radio. Already a considerable amount of public interest has been stimulated over this activity.

In May 1935 Mr. Bower Aly, editor of the Debate Handbook of the National University Extension Association Debate Committee, requested that an article supporting the negative of the debate proposition be prepared for the handbook. At the same time Mr. Aly requested that publications of the Bureau of Medical Economics be made available to the members of debating teams.

An article entitled "The Medical Profession Is the Only Competent Judge of Medical Services" was prepared by the Bureau and appears on pages 113-136 of volume I of the Ninth Annual Debate Handbook, entitled "Socialized Medicine." Publications of the Bureau of Medical Economics were divided into two groups for members of debating teams. One group consisting of four reprints—Some Defects in Insurance Propaganda, A Critical Analysis of Sickness Insurance, Sickness Insurance Not the Remedy, and Sickness Insurance Catechism—was offered for free distribution to individual debaters. The other group, consisting of fourteen reprints listed as follows, was offered as a library package to be lent to debaters by the debate coach of the school:

An Introduction to Medical Economics
Handbook of Sickness Insurance, State Medicine and the Cost of Medical Care
Collecting Medical Fees
Contract Practice
Income from Medical Practice (with supplement)
Some Phases of Contract Practice
Medical Relations Under Workmen's Compensation
Group Practice
New Forms of Medical Practice
Health Insurance in England, and Medical Society Plans in the United States
Prepayment Plans for Hospital Care
Group Hospitalization Contracts
Distribution of Physicians in the United States
Care of the Indigent

Mr. Aly designated thirty-two points of distribution among the educational institutions of thirty states. Subsequently several state medical societies assisted in the distribution of the debate material. Several state medical societies have prepared an outline of arguments against state medicine.

The National University Extension Debate Committee arranged a radio debate on the national debate proposition. This was presented over the Red Network of the National Broadcasting Company, Nov. 12, 1935. The speakers for the affirmative were Mr. William T. Foster and Mr. Bower Aly, and for the negative Dr. Morris Fishbein and Dr. R. G. Leland. This debate was taken on phonograph records made at the time and is now available in reprint form.

Between the dates of March 1935 and Jan. 1, 1936, approximately 134,000 reprints of the Bureau of Medical Economics were distributed for the use of students on debate teams. Only a comparatively small number of debates were held up to Jan. 1, 1936. The reports that have been received indicate that the negative teams have won in most instances.

A considerable number of county medical societies and individual physicians have requested reprints of the Bureau and other statistical data on state medicine and have used this material in assisting members of debate teams in preparing their negative arguments.

Summary

The activities of the Bureau of Medical Economics for the year 1935 may be summarized under the following headings:

Sickness Insurance: Continued study of the subject; collection of reports of foreign systems, statistical data and comparison of vital statistics under these systems with nearly comparable statistics in the United States, where possible; preparation of statements setting forth the characteristics of sickness insurance and distribution of reports and specially prepared articles on sickness insurance.

Medical Service Plans: Continued study of county medical society plans; criticism of proposed plans; collection of data and descriptive material to show well planned and balanced county medical society programs and the relative emphasis given to medical service plans; an effort to determine the measure of success attained by medical service plans in serving sick people.

Distribution of Physicians in the United States: A study with fifty-four tables and fifteen charts to show, in part, the distribution of physicians according to population, type of practice, age and geographic location of the physicians listed in the 1931 American Medical Directory.

Medical Relations Under Workmen's Compensation: Revision of the original report on this subject to include the changes in workmen's compensation laws and relations that were made in 1933, 1934 and the first half of 1935.

Care of the Indigent Sick: Comment and suggestions offered on plans for the medical care of the indigent proposed by county and state medical societies.

University and College Student Health Service: Completion of a study of University and College Student Health Service requested by the Board of Trustees in 1934 with summary and conclusions.

Group Hospitalization: Attempt to define the term "group hospitalization"; compilation of list of group hospitalization organizations; collection of data pertaining to the experience of this new method of providing hospital facilities for the sick; criticism of proposed plans and advice concerning the attitude of the American Medical Association toward such plans.

Relation of Medical Ethics and Medical Economics: A report nearly completed, which endeavors to show the economic implications in the Principles of Medical Ethics and a discussion of the ethical applications of the principles of medical economics.

Debate on State Medicine: Preparation of special article for the official handbook of the National University Extension Association Debate Committee; distribution of publications of the Bureau of Medical Economics to medical societies, individual physicians, student debating teams, university extension departments and high school, college and public libraries.

General: Travel; forty visits to thirty-three cities in eighteen states and the District of Columbia, covering a total distance of 38,610 miles. Speaking engagements and conferences: seventy-eight addresses and conferences with an attendance of 7,900, mostly physicians. Correspondence: 3,263 communications.

Proposed Program

1. Continued study of state managed medical systems of foreign countries and preparation of data and reports for the use of the medical profession.

2. A study of medical service plans to determine, if possible, the measure of success they have attained in making medical services more easily available to the people of low incomes.

3. Compilation of additional data on distribution of physicians in the United States and in foreign countries.

4. Preparation of new material to be used in revisions of the publications "Medical Relations Under Workmen's Compensation" and "Care of the Indigent Sick."

5. Completion of study now in progress on group hospitalization.

6. Revision of publication "Collecting Medical Fees."

7. A study of rural medical facilities.

8. Cooperation with Council on Medical Education and Hospitals in furnishing material and suggestions to medical schools on the instruction of medical students in medical economics.

Bureau of Health and Public Instruction

Because of the increased demands made on the Bureau of Health and Public Instruction, it was necessary to increase the personnel of the Bureau through the employment of an assistant director and an additional stenographer. Dr. P. A. Teschner,

a member of the State Medical Society of Wisconsin, assumed his duties as assistant director, Dec. 16, 1935. He has had much experience in the field of health education.

RADIO PROGRAM

A very radical change has been made in the character of the radio program which was instituted over the Blue Network of the National Broadcasting Company in 1933 in that the program now consists of radio dramatizations, broadcast weekly over the Red Network. Subjects of popular interest have been selected for this program, including automobile accidents, household emergencies, hunting accidents, animal disease in man, asphyxiation, burns and others which have lent themselves to dramatization and about which the public needs to be informed. These programs have been well received throughout the United States, and a number of commendatory expressions concerning them have come from England and other countries, where the programs have been heard by means of short-wave reception. No effort has been spared by the National Broadcasting Company in putting this program on the air in a first class manner. Officers and members of the official personnel of the National Broadcasting Company have taken enthusiastic interest and have given the greatest possible assistance to insure the success of the program. The Board of Trustees and the Bureau of Health and Public Instruction offer an expression of grateful appreciation to the major officers of the National Broadcasting Company who have exhibited a personal interest, and to Miss Judith Waller, educational director; to Mr. Lawrence Holcomb and Mr. Theodore Scherdeman of the production department; to Mr. Charles Lyon, the announcer, and to Mr. William J. Murphy, who has prepared the scripts, which have been notable for human interest, dramatic intensity and scientific accuracy. All the talks in connection with the dramatizations have been delivered by Dr. Morris Fishbein, editor, Dr. W. W. Bauer, director of the Bureau of Health and Public Instruction, and Dr. R. G. Leland, director of the Bureau of Medical Economics.

A radio library for the use of local medical societies is being maintained and now contains 766 talks. During the year, 4,780 items from this radio library were distributed for the use of fifty-four component county medical societies and fourteen constituent state medical associations.

CORRESPONDENCE AND QUESTIONS AND ANSWERS

The direct correspondence of the Bureau has increased by more than 60 per cent within three years. Approximately 11,000 letters were written during the year 1935.

The question and answer correspondence showed an increase during the year of approximately 11 per cent. In certain instances, queries and answers are published in HYGEIA, but there is a constant diminution in the percentage of the number so published.

COOPERATION WITH STATE AND COUNTY MEDICAL SOCIETIES

In an effort to be helpful to component county medical societies, the Bureau has maintained the fullest possible contact with the officers of these organizations. Social security legislation has apparently been the subject of greatest interest to county and state medical societies. With members of the Board of Trustees and with the director of the Bureau of Medical Economics, the director of the Bureau of Health and Public Instruction attended a conference of state and territorial health officers with the United States Public Health Service and the Children's Bureau held in Washington, D. C., when the implications of the social security bill then pending were fully discussed. The sessions of the Conference of State and Provincial Health Authorities in Atlantic City were attended by the chairman of the Board of Trustees, the director of this bureau and the director of the Bureau of Medical Economics. Information obtained at this conference has been made available to the medical profession through correspondence, through articles published in the AMERICAN MEDICAL ASSOCIATION BULLETIN and through personal conferences.

The director of the Bureau was authorized by the Board of Trustees to accept membership on the General Advisory Committee to the United States Children's Bureau and attended a meeting of that committee and of its subcommittee on maternal and child health services in Washington in December.

COOPERATION WITH GOVERNMENT AGENCIES AND WITH LAY ORGANIZATIONS

The director of the Bureau of Health and Public Instruction and Dr. Arthur J. Cramp, formerly director of the Bureau of Investigation, attended a hearing before the Federal Communications Commission and presented the points of view of the American Medical Association with respect to radio advertising and freedom of expression on the air.

By order of the Board of Trustees, the director of the Bureau continues to serve as a member of advisory committees of the following organizations: National Congress of Parents and Teachers, General Federation of Women's Clubs, Joint Committee on Health Problems in Education, and the National Committee for Boys and Girls Club Work. The director of the Bureau was also authorized by the Board of Trustees to participate in the official activities of the American Public Health Association and, at the 1935 annual meeting of that organization in Milwaukee, was elected chairman of the Section on Health Education.

FIELD WORK

During the year 1935 the director of the Bureau delivered eighty-six addresses and attended twenty conferences and meetings. The audiences addressed included 518 physicians in the medical society groups, approximately 20,000 persons in lay groups and about 3,000 persons in groups including both physicians and nonmedical listeners. A number of appearances were made before high school audiences. One hundred and eight days were spent in the field.

PAMPHLETS AND REPRINTS

Eight of the pamphlets prepared under the auspices of the Bureau of Health and Public Instruction were revised and reprinted during the year, eight pamphlets were discontinued and fourteen new pamphlets were added to the catalogue.

OTHER ACTIVITIES

The Bureau of Health and Public Instruction has cooperated as fully as possible with the editorial department and has prepared material for HYGEIA and the AMERICAN MEDICAL ASSOCIATION BULLETIN. Nine articles prepared by the Bureau were published elsewhere than in the Association's periodicals. The Bureau has also cooperated with the Bureau of Exhibits in connection with service to local and state medical societies and to other important groups.

Summary

Dr. P. A. Teschner of Milwaukee was appointed assistant director of the Bureau of Health and Public Instruction, Dec. 16, 1935.

There has been considerable expansion in the scope of the Bureau's work, including greatly increased correspondence and more extensive activities in the field.

The Association's radio program, under the immediate direction of this bureau, has been received with great favor throughout the United States and has been commended in several foreign countries.

The Bureau has attempted to maintain helpful contact with important national organizations and official agencies of the federal government.

The director is serving as a member of advisory committees of several important organizations of national scope.

Bureau of Investigation

Dr. Arthur J. Cramp, director of the Bureau of Investigation, after nearly thirty years of service characterized by the utmost devotion, loyalty and efficiency, was compelled to retire, Nov. 30, 1935, because of the condition of his health. The department now known as the Bureau of Investigation and formerly called the Propaganda for Reform Department was developed by Dr. Cramp, who gave himself entirely to its work in the interests of scientific medicine and for the protection of the public. With no thought of self and with the utmost devotion to the cause he so faithfully served, Dr. Cramp fought fearlessly for the establishment of truth and for the destruction of fraud and quackery. The Board of Trustees desires to acknowledge its most sincere appreciation of the fine service

rendered by Dr. Cramp and to express the hope that he will enjoy a long period of well earned rest.

Dr. Frank J. Clancy, a member of the Washington State Medical Association, was appointed director of the Bureau of Investigation and assumed his duties in that capacity, Feb. 1, 1936.

WORK OF THE BUREAU

The work of the Bureau of Investigation was conducted along the same well established lines that have been followed in previous years. A most important part of this work has been concerned with direct inquiries received from physicians and laymen. From ten to twelve thousand individual communications are answered by this bureau each year. The number of inquiries received from laymen is constantly increasing.

It is gratifying to note the increasing number of communications received from publishers of lay periodicals and from managers of radio broadcasting stations submitting inquiries with regard to advertising material that has been offered for publication or for broadcasting. It is also gratifying to the Board of Trustees to report an increasing number of inquiries received by the Bureau of Investigation from teachers and from the members of classes in educational institutions, indicating a growing interest in the study of the nostrum evil and of quackery.

The Bureau has continued its efforts to give such assistance as it could offer to various agencies of the federal government, including the Federal Trade Commission, the Food and Drug Administration, the Federal Communications Commission, the Postoffice Department and the Federal Bureau of Investigation. The Bureau has continued to cooperate as fully as possible with better business bureaus throughout the country.

Because of the ill health of the director of the Bureau, the amount of field work in 1935 was greatly curtailed.

Lantern slides, film strips with projector, and educational posters prepared by the Bureau have been made available to physicians and educators, and the number of requests for the use of such material has increased appreciably. The demand for the pamphlets prepared and issued by the Bureau of Investigation was strongly maintained during the year covered by this report. A third volume of Nostrums and Quackery is now in process of preparation under the immediate direction of Dr. Arthur J. Cramp.

Summary

Dr. Arthur J. Cramp, director of the Bureau of Investigation, after nearly thirty years of continuous service, retired, Nov. 30, 1935, because of ill health. Dr. Frank J. Clancy of Seattle, Washington, was made director of the Bureau, Feb. 1, 1936.

The work of the Bureau of Investigation has been continued in increasing amount along the well established lines followed in previous years. There seems to be an increasing interest on the part of the general public in the study of nostrums and quackery, especially in educational institutions.

Bureau of Exhibits

THE ANNUAL SCIENTIFIC EXHIBIT

The Scientific Exhibit at the Atlantic City session was characterized not only by its size, which was the greatest in the history of the Association, but by the wide range of topics covered and the excellence of presentation by the 466 individuals who contributed material. There were 214 different exhibits, of which eighteen came from Canada. At the Cleveland session in 1934 there were 167 exhibits, while at Milwaukee in 1933 there were 120 exhibits. In spite of the commodious hall available at Atlantic City, nearly 30 per cent of the applications for space could not be accommodated.

There were four special exhibits subsidized by the Board of Trustees, on diabetes, nutrition, prevention of asphyxial deaths, and vaccines and serums. The appreciation of the Committee on Scientific Exhibit goes to the numerous persons who are ably assisted in these exhibits.

Several of the section exhibits committees presented special features. Exhibit symposiums were conducted on cancer, syphilis, tuberculosis, and acute infections of the central nervous system in children. Special exhibits were given on "treatment of obstetric and gynecologic hemorrhage" and on the "relation of psychiatry to the physician in general practice." Motion picture programs were shown under the auspices of five of the sections; these pictures, together with those shown in individual booths, made a total of nearly a hundred different motion pictures shown in the Scientific Exhibit.

The Committee on Awards was confronted by an unusually difficult task, on which it worked tirelessly, presenting a report which received unanimous commendation. A total of twenty-nine awards were made, of which the Canadians received four.

ASSOCIATION EXHIBITS

Exhibit material has been sent out from Association headquarters on ninety-two occasions during the year to meetings in twenty-nine states. This includes both medical societies and public expositions which have been approved by medical societies. There has been collected by the Association some thirty exhibits suitable for medical and other professional groups and twenty exhibits for fairs, expositions and lay groups. The demand for exhibit material bids fair to exceed the capacity of the Bureau. There is serious doubt that expansion should be made to an extent that would enable the Association to meet all demands. The facilities of the Bureau have been greatly increased, only further to stimulate demand for its service. There is a limit established by costs of material and its preparation and by costs of transportation and breakage, beyond which the Bureau can hardly go.

In several states, notably California, Ohio and Washington, the state medical association has borrowed material for a period of months, sending it from place to place as required.

Cooperating with the California Medical Association, the Bureau has installed an exhibit at the San Diego exposition.

THE CENTRAL SCIENTIFIC EXHIBIT

The Central Scientific Exhibit was dismantled at the headquarters building of the Association in 1934 because of lack of space. The Museum of Science and Industry in Chicago has stored the material pending such time as it can be accommodated in that building. Installation will not take place until the latter part of 1936 in all probability.

MOTION PICTURES

There are many hundreds of requests annually for motion pictures and lantern slides which cannot be filled by the Bureau. The few films which the Association has available are for medical audiences and are confined mostly to the field of physical therapy. The provision and handling of films for lending purposes involves relatively large expenditures. Damages and replacements are costly and, in many instances, films are rapidly outdated.

Summary

The Scientific Exhibit at the Atlantic City session was the largest and most varied that has ever been made.

In 1935 exhibits were made on ninety-two occasions in twenty-nine states.

The demand for exhibit material is fast becoming greater than can be met.

Cooperating with the California Medical Association, the Bureau has installed an exhibit at the San Diego exposition.

It is not possible for the Bureau to comply with the hundreds of requests received for motion pictures, because of costs involved.

Committee on Foods, 1935

At the close of 1935 the number of products standing accepted by the Committee on Foods had reached the total of 2,893. The number of pending submissions has been so great that it was decided in April at the seventh annual meeting of the Committee on Foods that new submissions be limited for a period of six months to those of special interest to physicians. This ruling was made in order that the office of the Committee might catch up with the work of considering both new and old products.

INQUIRIES RECEIVED

The prestige of the Committee on Foods is perhaps indicated by the large number of inquiries regarding food products which are received and answered throughout the year. The tabulated summary of the number of such inquiries received and answered by the office during 1935 follows:

Physicians	232
Health officers	19
Other professional persons	101
Medical societies and hospitals	34
Government departments	18
Better business bureaus	17
Schools and colleges	148
Food manufacturers	366
General public	717

These miscellaneous inquiries regarding food and nutrition thus average better than five a day.

RULES AND REGULATIONS OF THE COMMITTEE

During the year the Committee found it expedient to amend several rules. In the interest of physicians and for the benefit of the public the "Rules Governing Package Label and Advertising" have been amended by the addition of a second sentence, making the subsection read:

Names of diseases shall not be used on the package label or in advertising addressed to the public except in statements regarding nutritional disorders arising from inadequacy of the diet in nutritional essentials. Symptoms of disease shall not be referred to in lay advertising. [This statement is now in press for publication in THE JOURNAL.]

To the ruling on Violations was added the following:

No food product or class of food products, or advertising therefor, will be accepted, or if accepted will be retained, if in the opinion of the Committee such acceptance is likely to be construed as an acceptance or approval of any other products or activities of a firm, when such other products or activities of such firm are in conflict with the policies of the American Medical Association as set forth in the rules of the Committee on Foods, or those of the Council on Pharmacy and Chemistry or of the Council on Physical Therapy. [THE JOURNAL, June 1, 1935, p. 1999.]

The "Rules Governing Use of the Seal" were amplified slightly in the interest of clarity.

GENERAL COMMITTEE DECISIONS

Three new General Committee Decisions were adopted during the year and published in THE JOURNAL:

Advertising Dealing with Treatment of Disease or the Nutrition of the Sick, or Recommending any Special Type of Diet. [Feb. 2, 1935, p. 398.]

Fortification of Foods other than Dietary Staples with Vitamin D. [Feb. 16, 1935, p. 563.]

Fresh Compressed Yeast, Dried Yeast, and Yeast Extracts are Special Purpose Foods. [This decision is now in press for publication in THE JOURNAL.]

In addition, an amendment to the Decision "Vitamin E Claims for Public Advertising" (not yet published) was adopted.

COOPERATIVE COMMITTEE ON VITAMINS

An important development during the year was the formation of the Cooperative Committee on Vitamins of the Council on Pharmacy and Chemistry and the Committee on Foods. Members of this joint committee met in Chicago in October 1935 and discussed some of the vexatious problems concerning vitamins. The work of this cooperative committee is described more fully in the report of the Council on Pharmacy and Chemistry. An important question discussed at this meeting, and a question which is being considered by the Committee on Foods at present, concerns the vitamin D fortification of milk and cereal products.

CHANGES IN THE COMMITTEE AND THE OFFICE

It is a sad duty of the secretary to note the loss by death of the vice chairman, Dr. Lafayette B. Mendel, in December 1935. Dr. Mendel served the Committee with distinction since its beginning five years ago, and the loss of his wise counsel is most severe. No other change in the membership of the Committee occurred during 1935.

Mr. Raymond Hertwig, who acted as secretary during the formative years of the Committee, terminated his connection with the Association on Dec. 31, 1935. Since that time the necessary rearrangements, to coordinate the work of the office of the Committee with that of the Council on Pharmacy and Chemistry and the Council on Physical Therapy, have begun.

The present organization of the office consists of the new secretary of the Committee, Dr. Franklin C. Bing, who assumed his duties Feb. 1, 1936, a secretary and five office assistants. In April 1935 Dr. Ruth Cowan Clouse was appointed assistant to the secretary of the Committee on Foods to fill a long felt need for a technically trained individual to aid in the constructive work of the Committee. Unfortunately, Dr. Clouse became ill in November and is now on an indefinite leave of absence.

During the past year a number of authorities in their respective scientific fields were consulted on questions of moment before the Committee arising out of its regular business. In recognition of the helpful cooperation and valuable assistance given, the Committee has voted to express publicly its appreciation by publishing the names of those who in this manner and without remuneration have gladly contributed of their time, experience and knowledge to the benefit of the Committee in its public welfare and health work.

The Committee is officially thanking the following, who have served as consultants:

Prof. W. E. Anderson, Department of Physiological Chemistry, Yale University.

Dr. H. J. Fisher, Connecticut Agricultural Experiment Station, New Haven, Conn.

Genevieve Stearns, Ph.D., research associate professor, department of Pediatrics, State University of Iowa.

Dr. Daniel C. Darrow, assistant professor of Pediatrics, Yale University School of Medicine.

Dr. Martha M. Eliot, assistant chief, U. S. Children's Bureau, lecturer in clinical pediatrics, Yale University School of Medicine.

Dr. Dwight L. Wilbur, assistant professor of Medicine, Mayo Foundation.

Miss Mary A. Foley, assistant professor of Medicine (dietitian), Mayo Foundation.

Prof. Henry C. Sherman, head of Department of Chemistry, Columbia University.

Prof. Grace MacLeod, professor of nutrition, Teachers College, Columbia University.

Summary

The consideration of new submissions was halted temporarily for several months as it became more and more evident that the facilities of the office would not permit the amount of policing over advertising of accepted products that such material seems to demand. That claims opposed to the principles of the American Medical Association are promulgated from time to time is only too evident; but much objectionable material is eliminated, and the Committee during 1935 continued its efforts in this direction.

The Committee lost by death its vice chairman, Dr. Lafayette B. Mendel, who had been a member of the Committee since its beginning.

Important developments of the year include an initiation of efforts to produce constructive reports for publication in The Journal, as planned by the Joint Committee on Vitamins. This subcommittee marks the beginning also of unification of the work of the Committee on Foods with phases of the work of the Council on Pharmacy and Chemistry.

With these beginnings, the Committee anticipates further developments leading toward completion of the plans to coordinate its efforts with similar endeavors of other departments at headquarters.

Requests for a Special Session of the House of Delegates

In a communication received from the Board of Trustees of the Medical Society of New Jersey, the Board of Trustees of the American Medical Association was requested to call a special meeting of the House of Delegates to be held in January or February 1936 for the purpose of discussing medical economics. Later, similar requests were received from the Medical Society of the District of Columbia, the Council of the Maine Medical Association, the Council of the South Carolina Medical Association, the Council of the Hawaii Territorial Medical Association and the Executive Committee of the Louisiana State Medical Society. It is the understanding of the Board of Trustees that the communication from the Medical Society of New Jersey was sent to the secretaries or other officers of all constituent medical associations.

The requests submitted from official bodies of six constituent associations were given most careful consideration. In view of the fact that the By-Laws of the American Medical Associa-

tion specifically provide that special sessions may be called by the Speaker on written request of twenty-five or more delegates representing one third of the constituent associations or on request of a majority of the Board of Trustees; that no delegates had asked that a special session of the House of Delegates be held; that a special meeting of the House of Delegates was held in February 1935, and that the regular session of the Association would be held in May 1936, the members of the Board of Trustees felt that it would be inexpedient to ask that a special session of the House of Delegates be called to convene at any time prior to the regular session.

Resolution Concerning the Establishment of a National Department of Health

A resolution introduced at the special session of the House of Delegates in February 1935 by Dr. C. E. Humiston of Illinois was referred to the Board of Trustees and received careful attention.

The Board of Trustees was informed that a committee of the federal government has been appointed to study proposed plans for correlating the work of various departments concerned with medical and public health affairs. So far as the Board of Trustees is advised, this committee has not submitted any proposals or complaints. Having in mind the fact that some years ago a special committee appointed by the House of Delegates had thoroughly investigated a similar proposal and apparently had come to the conclusion that it would not be desirable to support plans for the establishment of a national department of health, and for other reasons which were brought out in the discussion of the general subject, the Board of Trustees did not feel that it would be wise to submit any recommendation to the House of Delegates at this time.

Instruction in Medical Schools Regarding Organized Medicine

The resolutions submitted below were adopted by the House of Delegates of the Ohio State Medical Association and officially referred to the Board of Trustees. Similar resolutions adopted by the Council of the Arkansas Medical Society were also submitted to the Board.

These resolutions are brought to the attention of the House of Delegates for official consideration.

WHEREAS, It has been noted with disappointment that some of the graduates of medical schools and colleges in recent years apparently are unfamiliar with the objectives and activities of organized medicine and lack a clear understanding of the benefits to be derived through membership in local, state and national medical societies; be it

Resolved, By the House of Delegates of the Ohio State Medical Association, Oct. 2-4, 1935, that the administrative officials of all accredited American medical colleges be respectfully requested to provide instruction for senior students on the activities, services and benefits of organized medicine. Be it

Resolved, That a copy of this resolution be transmitted to the dean of each of the accredited medical colleges of America, the Council on Medical Education and Hospitals and the Board of Trustees of the American Medical Association, and the secretary of each constitutent state medical society.

Resolution Pertaining to Scarlet Fever Patent

A resolution submitted to the House of Delegates at the Atlantic City session by Dr. J. M. Birnie, delegate from Massachusetts, was referred to the Board of Trustees.

A special committee was appointed to investigate the matters with which this resolution was concerned and the subject of medical patents in general. The Board of Trustees is informed that a similar study is being prosecuted under other auspices.

Because of the complexity of the existing situation with respect to medical patents and because of the scope of necessary investigations, the Board of Trustees is not prepared to submit a definite recommendation to the House of Delegates at the present time.

Resolutions Pertaining to Pure Food Bill and to Advertising

At the Atlantic City session Dr. John F. Hagerty, delegate from New Jersey, submitted resolutions adopted by the Board of Trustees of the Medical Society of New Jersey requesting the House of Delegates of the American Medical Association to express its opposition to the passage of Senate Bill No. 5, generally known as the Copeland Pure Food Bill, and to urge a congressional investigation of the enforcement of the present Food and Drugs Act and further requesting the American Medical Association to refuse advertisements for any medical journal controlled by the Association or by the constituent state medical associations which are offered by pharmaceutical houses that advertise to the laity. These resolutions were referred to the Board of Trustees and have received thorough consideration.

The Board of Trustees desires to inform the House of Delegates that most intensive effort was made, from the moment it became known that a new food and drug bill would be submitted to Congress, to secure the enactment of a reasonable and effective law. The Association has been represented at hearings held before committees of Congress, and many conferences have been held with members of Congress in charge of food and drug legislation and with representatives of government departments and of organizations of national scope. The Council on Pharmacy and Chemistry and the Committee on Foods made careful studies of pending food and drug legislation and prepared official reports, which were approved by the Board of Trustees and published in THE JOURNAL. Discussion of pending food and drug legislation has been presented in editorials and in special articles in THE JOURNAL.

For many years the American Medical Association has been persistently active not only in its efforts to secure effective food and drug legislation but also in its efforts to secure efficient and effective administration of food and drug laws. Councils, bureaus and departments of the Association have given the utmost possible cooperation to the Food and Drug Division of the Department of Agriculture and to other governmental agencies concerned with the administration of federal statutes.

In connection with this matter, the Board of Trustees has had before it a letter addressed to the chairman and members of the Federal Trade Commission by Marcus W. Newcomb, M.D., president of the Medical Society of New Jersey, to which were attached a copy of resolutions adopted by the Medical Society of New Jersey and a copy of resolutions adopted by the Board of Trustees of the Medical Society of New Jersey pertaining to the food and drug law, to the advertising of drugs and drug products to the laity and to "the use of the AMA endorsement in lay press and radio programs advertising food products by manufacturers of such articles." In the letter addressed by the president of the Medical Society of New Jersey to the chairman and members of the Federal Trade Commission, it was stated that certain products, including canned tuna fish, butter and "a digitalis medicinal preparation," were the subjects of applications for complaint filed with the subcommittee of the House of Representatives, and that these products displayed the seal of the Committee on Foods or of the Council on Pharmacy and Chemistry of the American Medical Association "despite officially recorded libel actions under the Federal Food and Drugs Act for adulteration or misbranding against those same manufacturers' products." The Board of Trustees is informed that this statement is misleading and unfair and, so far as is known to the Board of Trustees, was made without any effort to discover the facts from the Council on Pharmacy and Chemistry or from the Committee on Foods. The Board of Trustees is informed that the butter referred to in Dr. Newcomb's letter to the Federal Trade Commission did not bear the seal of the Committee on Foods but that it was a bulk product which does not come within the consideration of that committee. The Board of Trustees is further informed that as soon as it became known that a notice of judgment had been issued as the result of a seizure by the Food and Drug Division of a small lot of a certain digitalis preparation, the Council on Pharmacy and Chemistry purchased in the open market, at places located in different sections of the United States, samples of this particular product, which were submitted to laboratory examination and were found to be quite up to required standards.

In the preamble to the resolutions attached to the letter of the president of the Medical Society of New Jersey, the statement is made that the Committee on Foods, the Council on Pharmacy and Chemistry and the "Investigations Bureau" of the American Medical Association "have exercised selections unwarrantably in the notices of judgment that they have published and have permitted the license to use their seal on the advertisements of

products that are even at the same time being successfully prosecuted by libel actions under the Food and Drug Law." The Board of Trustees is informed that the implications in this statement are unwarranted. Official records of the Council on Pharmacy and Chemistry and of the Committee on Foods are available to the members of the House of Delegates.

In this connection, the Board of Trustees has also had before it a copy of the publication called the "Journal of Intravenous Therapy," apparently the house organ of a concern known as the Loeser Laboratory, containing a libelous article, and a part of the preamble to the resolutions adopted by the Medical Society of New Jersey appears. The Board of Trustees is informed that these resolutions were sent to members of Congress from New Jersey, to the Secretary of Agriculture, to the Secretary of the Treasury and to the secretaries of all constituent medical associations as well as to the editors of daily newspapers in New York, Philadelphia, Atlantic City, N. J., and other cities in New Jersey.

With respect to the second part of the resolutions submitted to the House of Delegates by Dr. Hagerty, the Reference Committee on Legislation and Public Relations reported as follows at the Atlantic City session:

> With reference to the resolution offered by Dr. John F. Hagerty on behalf of the Medical Society of the State of New Jersey, relative to advertising, your committee recognizes the danger inherent in the advertising of drugs and drug products to the laity. It sees difficulty, however, in the way of compliance with the request for the refusal, by the American Medical Association and its constituent state associations, of all advertising whatsoever offered by pharmaceutical houses that offend against this principle for publication in the journals controlled by the American Medical Association and its constituent assocations.
>
> The committee recommends that this matter be referred to the Board of Trustees for appropriate action.

The publications of the American Medical Association are published under the direction of the Board of Trustees, but the Board does not control the advertising columns of the official journals of constituent associations. The Board of Trustees is heartily in sympathy with the attitude of the Medical Society of New Jersey so far as it applies to the advertising of drugs and drug products that should be administered at the direction of physicians.

The Official Rules of the Council on Pharmacy and Chemistry bearing on this matter are as follows:

Rule 3.—DIRECT ADVERTISING.—No article that is advertised to the public will be accepted or retained; but this rule shall not apply to: (*a*) disinfectants, germicides and antiseptics, provided the advertising is limited to conservative recommendations for their use as prophylactic applications to superficial cuts and abrasions of the skin and to the mucous surfaces of the mouth, pharynx and nose (but not to those of the eye, and the gastro-intestinal and genito-urinary tracts) and provided they are not advertised as curative agents (see comments to Rule 3); (*b*) liquid petrolatum and simple preparations of liquid petrolatum, agar and simple preparations of agar, and similar preparations which act because of their bulk provided that such lay advertising carries a warning that agar and similar preparations may be harmful in colitis; (*c*) other agents about which the public should be informed which would not lead to harmful self-medication provided (1) they are not advertised as curative agents and provided (2) that advertising to the public does not go beyond that passed by the Council for physicians (Rule 6).

In the "Explanatory Comments on the Rules" prepared and issued by the Council the comment pertaining to Rule 3 is as follows:

Rule 3.—DIRECT ADVERTISING.—The impossibility of controlling the irresponsible claims which are usually made in advertisements to the public, the well known dangers of suggesting by descriptions of symptoms to the minds of the people that they are suffering from the many diseases described, the dangers of the unconscious and innocent formation of a drug habit, and the evils of harmful self-medication, including the dangers of the spread of many infectious and contagious diseases when hidden from the physician, and similar well-known considerations, are the reasons for discouraging, in the interest, and for the safety, of the public, this reprehensible form of exploitation. Advertising in medical journals and other publications distributed solely to physicians or in journals for dentists, pharmacists, nurses and veterinarians does not come within the scope of this rule, provided such advertising does not invite or encourage use by unqualified persons.

In the case of subjects on which the public should be instructed, as the use of certain disinfectants, germicides, antiseptics, certain laxatives, and such other articles as the Council may specify, advertisements to the public, if not in objectionable forms, are considered admissible. In no case shall such advertisements include recommendations for use as curative agents, nor shall the names of any diseases appear on or in the trade package except in connection with prophylactic recommendations. If the preparation is sufficiently toxic to require caution in its use to prevent poisoning, this fact shall be stated on the label. On account of the deplorable results which would follow any abuse of this privilege, the conscientious cooperation of manufacturers and their agents in adhering strictly to the limitations laid down is asked; and for the same reason the acceptance of an article which is so advertised as to infringe on these limitations in any essential way (as by naming diseases or by making false and exaggerated claims) shall be summarily rescinded, and the reasons for such action may be published without notice to manufacturer or agent. A disinfectant, germicide or antiseptic will be accepted for description in New and Nonofficial Remedies, and an article of this class which has already been accepted will continue to be included in New and Nonofficial Remedies only on the explicit understanding by the manufacturer and agent that such infringements of the rule will be followed by deletion of the article and by publication of the facts as described.

Respectfully submitted.

ROCK SLEYSTER, Chairman.
AUSTIN A. HAYDEN, Secretary.
JAMES R. BLOSS.
ARTHUR W. BOOTH.
ALLEN H. BUNCE.
THOMAS S. CULLEN.
RALPH A. FENTON.
ROGER I. LEE.
CHARLES B. WRIGHT.

ADDENDA TO REPORT OF BOARD OF TRUSTEES

COMMITTEE ON THERAPEUTIC RESEARCH

The Committee on Therapeutic Research, a standing committee of the Council on Pharmacy and Chemistry, encourages scientific investigations in the field of therapeutics by providing funds for the prosecution of necessary research.

During the year 1935 the committee issued twenty-five new grants.

A detailed list of these grants together with a list of publications during 1935, and of unexpired grants made before Jan. 1, 1935, is herewith submitted.

The following is a list of the investigations conducted with the assistance of grants made by the Committee on Therapeutic Research, reports of which were published during 1935:

1. The Effect of Parathyroid Extract upon the Serum Calcium of Nephrectomized Dogs, Read Ellsworth and Palmer Howard Futcher: *Bulletin of the Johns Hopkins Hospital* **57**: 91-98 (Aug.) 1935.

2. Further Observations on the Changes in the Electrolytes of the Urine Following the Injection of Parathyroid Extract, Read Ellsworth and William M. Nicholson: *Journal of Clinical Investigation* **14**: 823 (Nov.) 1935.

3. Vitamin C Concentrates as Preventives Against Black Tongue, with Parallel Studies of the Same Concentrates in the Diets of White Rats, L. E. Booher and G. H. Hansmann: *American Journal of Physiology* **114**: 429 (Jan.) 1936.

4. Fractionation Studies on Provitamin D, Elizabeth M. Koch and F. C. Koch: *Science* **82**: 394 (Oct. 25) 1935.

5. The Relation of the Oxidation-Reduction Potential of Yeast Cell Suspensions to the Degree of Reduction of Intracellular Cytochrome, J. P. Baumberger, C. C. Fahlen, R. K. Skow and K. Bardwell: *Proceedings of the XV International Physiological Congress*, Leningrad and Moscow, U. S. S. R., 1935.

6. Presence of Anti-Pernicious Anemia Principle in Normal Human Urine, George E. Wakerlin: *Proceedings of the Society for Experimental Biology and Medicine* **32**: 1607, 1935.

7. Further Evidence for the Presence of a Toxic Factor in Pernicious Anemia, G. E. Wakerlin and H. D. Bruner: *Science* **82:** 494 (Nov. 22) 1935.

8. The Presence in Normal Human Urine of a Reticulocyte Stimulating Principle for the Pigeon, G. E. Wakerlin and H. D. Bruner: Proceedings of the American Physiological Society, *American Journal of Physiology* **113:** 136 (Sept.) 1935.

9. Iodine in Cabbage, Jesse Francis McClendon and Curtis Ethan Holdridge: *Biochemical Journal* **29:** 272, 1935.

10. Morphine as a Metabolic Stimulant, H. G. Barbour and Janet Andrews: Scientific Proceedings of the American Society for Pharmacology and Experimental Therapeutics, Inc., *Journal of Pharmacology and Experimental Therapeutics* **54:** 137 (June) 1935.

11. Excretion of Mercury After Oral Administration of Mercury with Chalk, Yellow Mercurous Iodide and Corrosive Mercuric Chloride, Torald Sollmann, H. N. Cole, N. E. Schreiber, H. F. deWolf and J. V. Ambler: *Archives of Dermatology and Syphilology* **31:** 15 (Jan.) 1935.

12. Excretion of Mercury After Clinical Intramuscular and Intravenous Injections, Torald Sollmann, N. E. Schreiber, H. N. Cole, J. V. Ambler, J. A. Gammel, R. L. Howard and H. C. Shaw: *Archives of Dermatology and Syphilology* **32:** 1 (July) 1935.

13. Mercury Inunctions, Torald Sollmann, H. N. Cole, N. E. Schreiber, H. F. deWolf and J. V. Van Cleve: *Archives of Dermatology and Syphilology* **32:** 242 (Aug.) 1935.

14. Studies on the Effect of the Administration of Carotene and Vitamin A in Patients with Diabetes Mellitus, Elaine P. Ralli, Harold Brandaleone and Theodore Mandelbaum: *Journal of Laboratory and Clinical Medicine* **20:** 1266 (Sept.) 1935.

15. The Relative Efficiency of a Series of Analeptics as Antidotes to Sublethal and Lethal Dosages of Pentobarbital, Chloral Hydrate and Tribrom-Ethanol ("Avertin"), O. W. Barlow: *Journal of Pharmacology and Experimental Therapeutics* **55:** 1 (Sept.) 1935.

16. Action of Ovarian Follicle Hormone in Ovarian Insufficiency in Women as Indicated by Vaginal Smears, George N. Papanicolaou and Ephraim Shorr: *Proceedings of the Society for Experimental Biology and Medicine* **32:** 585 (Jan.) 1935.

17. A Microquinhydrone Electrode: Its Application to the Determination of the *p*H of Glomerular Urine of Necturus, J. A. Pierce and Hugh Montgomery: *Journal of Biological Chemistry* **110:** 763 (Aug.) 1935.

18. The Application of the Microquinhydrone Electrode to the Determination of the *p*H of the Aqueous Humor of Rachitic and Normal Rats, J. A. Pierce: *Journal of Biological Chemistry* **111:** 501 (Oct.) 1935.

19. Effect of Cortico-Adrenal Extract on Hemolysin Formation in Normal Adult Animals, C. A. Fox and R. W. Whitehead: *American Journal of Physiology* **113:** 44 (Sept.) 1935.

20. Effect of Cortico-Adrenal Extract on Leukocytes in Blood of Normal Adult Rabbits, C. A. Fox and R. W. Whitehead: *Proceedings of the Society for Experimental Biology and Medicine* **32:** 756 (Feb.) 1935.

21. Effect of Administered Glucose upon Amino Nitrogen Content of the Blood, J. M. Luck, B. L. Davis Jr. and W. Van Winkle Jr.: *Proceedings of the Society for Experimental Biology and Medicine* **32:** 1039 (April) 1935.

22. Feeding Experiments with Mixtures of Highly Purified Amino Acids: VII. The Dual Nature of the "Unknown Growth Essential," Madelyn Womack and William C. Rose: *Journal of Biological Chemistry* **112:** 275 (Dec.) 1935.

23. Crystalline Progestin and Inhibition of Uterine Motility in Vivo, Willard M. Allen and Samuel R. M. Reynolds: *Science* **82:** 155 (Aug. 16) 1935.

24. Physiology of the Corpus Luteum: The Comparative Actions of Crystalline Progestin and Crude Progestin on Uterine Motility in Unanesthetized Rabbits, Willard M. Allen and Samuel R. M. Reynolds: *American Journal of Obstetrics and Gynecology* **30:** 309 (Sept.) 1935.

25. The Separation of the Substances in Liver Which Are Reticulocytogenic in the Guinea-Pig and Which Are Therapeutically Effective in Experimental Canine Black Tongue, Y. Subbarow, Bernard M. Jacobson and Cyrus H. Fiske: *New England Journal of Medicine* **212:** 663 (April 11) 1935.

26. The Response of the Guinea-Pig's Reticulocytes to Substances Effective in Pernicious Anemia: A Biologic Assay of the Therapeutic Potency of Liver Extracts, Bernard M. Jacobson: *Journal of Clinical Investigation* **14:** 665 (Sept.) 1935.

27. The Assay on Guinea-Pigs of the Hematopoietic Activity of Human Livers, Normal and Pernicious Anemia, Bernard M. Jacobson: *Journal of Clinical Investigation* **14:** 679 (Sept.) 1935.

28. Absence of Chemotropism in Lymphocytes, Harold M. Dixon and Morton McCutcheon: *Archives of Pathology* **29:** 679 (May) 1935.

29. A Comparative Study of the Actions of Morphine and Dilaudid (Dihydromorphinone Hydrochloride) on the Intact Small Intestine of the Dog, Charles M. Gruber and John T. Brundage: *Journal of Pharmacology and Experimental Therapeutics* **53:** 120 (Jan.) 1935.

30. Action of Apomorphine Hydrochloride upon the Small Intestine in Nonanesthetized Dogs, Charles M. Gruber and John T. Brundage: *Proceedings of the Society for Experimental Biology and Medicine* **32:** 863 (March) 1935.

31. The Effect of Different Sizes of Balloons Inserted in the Gut and Changes in Pressure Within Them upon the Activity of the Small Intestine, Charles M. Gruber and Anthony de Note: *American Journal of Physiology* **111:** 564 (April) 1935.

32. The Effects of Papaverine Hydrochloride and Dihydromorphinone Hydrochloride (Dilaudid) upon the Nonanesthetized Dog's Intestine Subjected to Different Internal Pressures, Charles M. Gruber and John T. Brundage: *Journal of Pharmacology and Experimental Therapeutics* **53:** 445 (April) 1935.

33. A Study of the Action of Drugs on Bell's Muscle—"Muscles of the Ureter," Charles M. Gruber: *Journal of Pharmacology and Experimental Therapeutics* **55:** 412 (Dec.) 1935.

34. A Comparison of the Actions of Dilaudid Hydrochloride and Morphine Sulfate upon Segments of Excised Intestine and Uterus, Charles M. Gruber, John T. Brundage, Anthony de Note and Raymond Heiligman: *Journal of Pharmacology and Experimental Therapeutics* **55:** 430 (Dec.) 1935.

35. The Nerve Control of the Coronary Vessels with New Experimental Evidence for the Pathways of Efferent Constrictor and Dilator Neurons in the Dog, Charles Greene: *American Journal of Physiology* **113:** 361 (Oct.) 1935.

36. Experimental Siderosis: II. Iron-Containing Pigment in Absence of Breakdown of Hemoglobin, Valy Menkin and S. M. Talmadge: *Archives of Pathology* **19:** 61 (Jan.) 1935.

37. Inflammation and Bacterial Invasiveness, Valy Menkin: *Proceedings of the International Physiological Congress,* Leningrad and Moscow, U. S. S. R., 1935.

During 1935 the following grants were made:

Grant 254: C. W. Edmunds, professor of materia medica and therapeutics, University of Michigan Medical School, $200, to investigate the action of the drugs in the digitalis group in animals injected with diphtheria toxin.

Grant 255: G. H. Hansmann, professor of pathology, Georgetown University School of Medicine, and L. E. Booher, Department of Chemistry, Columbia University, $150, to investigate the effectiveness of vitamin G in the cure of black tongue in dogs and, if cases can be found, of pellagra in the human being.

Grant 256: Valy Menkin, Department of Pathology, Harvard Medical School, $200, to investigate inflammation and tuberculosis in relation to immunity.

Grant 257: O. W. Barlow, assistant professor of pharmacology, Western Reserve University School of Medicine, $150, to investigate analeptics versus barbiturates.

Grant 258: Claus W. Jungeblut, associate professor of bacteriology, Columbia University College of Physicians and Surgeons, $250, to investigate vitamin C versus diphtheria.

Grant 259: O. W. Barlow, assistant professor of pharmacology, Western Reserve Universtiy School of Medicine, $100 to investigate the effects of parasympathetic drugs on the intestine.

Grant 260: George D. Shafer, associate professor of physiology, Stanford University School of Medicine, $60, to investigate the effect of sodium citrate on the vagus.

Grant 261: Robert P. Walton, assistant professor of pharmacology, Tulane University of Louisiana School of Medicine, $100, to investigate the absorption of drugs through the oral mucosa.

Grant 262: Victor E. Hall, assistant professor of physiology, Stanford University School of Medicine, $125, to investigate the mechanism of inhibition of the metabolic stimulating action of dinitrophenol by exposure to low environmental temperatures.

Grant 263: H. A. Shoemaker, associate professor of biochemistry and pharmacology, C. E. Clymer, professor of clinical surgery, and Henry H. Turner, University of Oklahoma School of Medicine, $150, to investigate the blood cholesterol and iodine values in thyroid disease and their alteration by treatment.

Grant 264: Detlev W. Bronk, Johnson professor of biophysics, University of Pennsylvania School of Medicine, $200, to investigate the action of various drugs on the autonomic centers.

Grant 265: George E. Wakerlin, head of the Department of Physiology and Pharmacology, University of Louisville School of Medicine, $200, to investigate hematopoiesis.

Grant 266: F. C. Koch, chairman of the Department of Physiological Chemistry and Pharmacology, the University of Chicago, $250, to investigate the antirachitic potency of irradiated sterols other than ergosterol.

Grant 267: Bernard M. Jacobson, Massachusetts General Hospital, $250, to investigate the therapeutic effects of the purified liver fractions in pernicious anemia, tropical sprue and pellagra.

Grant 268: Walter E. Hambourger, Department of Pharmacology and Toxicology, Yale University School of Medicine, $250, to investigate the mechanism of morphine action with special reference to the excitement in cats.

Grant 269: Francis G. Blake, Sterling professor of medicine, and Marion E. Howard, research assistant in medicine, Yale University School of Medicine, $50, to investigate the use of artificial pneumothorax in the treatment of lobar pneumonia.

Grant 270: Elaine P. Ralli, assistant professor of medicine, New York University College of Medicine, $250, to investigate the effect of carotene on the blood vitamin A.

Grant 271: Carl W. Walter, Department of Surgery, Harvard University Medical School, $250, to investigate the glomus body as the site of action of factors causing the complex "wound shock."

Grant 272: Ephraim Shorr, assistant professor of medicine, Cornell University Medical College, $150, to investigate the value of various ovarian preparations.

Grant 273: Marston, T. Bogert, professor of chemistry, Columbia University, $100, to investigate the chemistry and pharmacology of the quinazoline group.

Grant 274: John C. Krantz Jr., professor of pharmacology, University of Maryland School of Medicine, $200, to investigate degradation products of dextrose and their possible utilization in diabetes.

Grant 275: Roberta Hafkesbring, associate professor of physiology, Woman's Medical College of Pennsylvania, $200, to investigate the effects of sodium barbital and other hypnotics.

Grant 276: Eugene Stanton, Department of Pharmacology, Western Reserve University School of Medicine, $150, to investigate the addiction, tolerance and abstinence to various narcotics in animals, especially rats.

Grant 277: Katharine Henderson, Department of Pharmacology, Western Reserve University School of Medicine, $300, to investigate the excretion of bismuth.

Grant 278: William H. Lewis Jr., assistant clinical professor of medicine, and Arthur C. de Graff, professor of therapeutics, New York University College of Medicine, $150, to investigate the function of the heart in relation to age.

The following grants were issued before Jan. 1, 1935. In some cases the grant has expired and an unexpired balance remains, or the work is not yet completed or not yet published.

Grant 102: C. W. Greene, professor of physiology and pharmacology, University of Missouri Department of Physiology, $250, to investigate the distribution of nitrous oxide and oxygen in the blood during anesthesia.

Grant 119: Nicholas Kopeloff, research associate in bacteriology, New York State Psychiatric Institute and Hospital, $100, to investigate bacillus acidophilus milk for the prevention and treatment of summer diarrhea in babies.

Grant 143: Cleveland J. White, M.D., 104 South Michigan Avenue, Chicago, $150, to investigate the local, general and prophylactic aspects of superficial fungus diseases of the skin.

Grant 153. C. W. Greene, professor of physiology and pharmacology, University of Missouri Department of Physiology, $300, to investigate the reaction of the coronary system to drugs.

Grant 164: E. L. Jackson, associate professor of pharmacology, Emory University School of Medicine, $200, to investigate the antagonism between sodium barbital and insulin.

Grant 166: Jean Oliver, professor of pathology, Hoagland Laboratory, Long Island College of Medicine, $200, to investigate experimental nephritis in the frog.

Grant 171: Ernest C. Dickson, professor of Department of Public Health and Preventive Hygiene, Stanford University School of Medicine, $250, to investigate therapeutic procedures against coccidioidal granuloma.

Grant 192: Carl J. Wiggers, professor of physiology, Western Reserve University School of Medicine, $250, to investigate the effect of drugs on the coronary circulation in intact dogs.

Grant 194: Sarah A. Riedman, Columbia University College of Physicians and Surgeons, $200, to investigate the effect of a high fat, or ketogenic, diet on the susceptibility of animals to convulsions of experimental origin.

Grant 200: Walter Bauer, Massachusetts General Hospital, the Robert W. Lovett Memorial Foundation of the Harvard Medical School, $250, to investigate the anatomy and physiology of normal joints with special reference to rheumatoid arthritis.

Grant 201: George R. Cowgill, associate professor of physiologic chemistry, Sterling Hall of Medicine, Yale University, $250, to investigate vitamin B in relation to morphine addiction.

Grant 202: Charles M. Gruber, professor of pharmacology, Jefferson Medical College of Philadelphia, $200, to investigate the effects of drugs on Bell's muscle, trigon and fundus of the urinary bladder and of dilaudid on the intestine of unanesthetized dogs.

Grant 204: E. B. Krumbhaar, professor of pathology, McManes Laboratory of Pathology, University of Pennsylvania School of Medicine, $100, to investigate leukocyte attraction.

Grant 209: V. C. Myers, professor of biochemistry, and F. C. Bing, Department of Biochemistry, Western Reserve University School of Medicine, $250, to investigate iron metabolism.

Grant 210: C. I. Reed, associate professor of physiology, University of Illinois College of Medicine, $200, to investigate the use of viosterol 10,000 X in seasonal hay fever.

Grant 212: William C. Rose, professor of physiologic chemistry, University of Illinois, $375, to investigate the isolation of an unknown dietary essential present in proteins.

Grant 213: Richard W. Whitehead, professor of physiology and pharmacology, University of Colorado School of Medicine and Hospitals, $200, to investigate the influence of adrenal cortex extract administration on the resistance to bacterial toxins.

Grant 214: E. A. Park, professor of pediatrics, and J. A. Pierce, Johns Hopkins University School of Medicine, $200, to investigate the reaction of cartilage.

Grant 219: Torald Sollmann, professor of pharmacology, and Harold N. Cole, associate professor of dermatology and syphilology, Western Reserve University School of Medicine, $100, to investigate the epidemic factor in mercurial salivation.

Grant 221: John G. Reinhold, Department of Public Health, Philadelphia General Hospital, $250, to investigate the action of aminoacetic acid in progressive muscular dystrophy.

Grant 222: Eugene U. Still, assistant professor of physiology, the University of Chicago, $250, to investigate the changes in the metabolism of the pancreas.

Grant 223: Clinton H. Thienes, professor of pharmacology, and Lawrence E. Detrick, Department of Pharmacology, University of Southern California School of Medicine, $200, to investigate withdrawal phenomena in morphine addicted animals.

Grant 227: Katharine I. Henderson, Department of Pharmacology, Western Reserve University School of Medicine, $100, to investigate the clinical excretion of mercury and bismuth.

Grant 228: Henry G. Barbour, associate professor of pharmacology and toxicology, Yale University School of Medicine, $250, to investigate metabolism and water exchange in morphine habituation.

Grant 231: William R. Amberson, professor of physiology, University of Tennessee College of Medicine, $100, to investigate hemoglobin perfusion fluids.

Grant 232: George R. Cowgill, associate professor of physiologic chemistry, Yale University School of Medicine, $250, to investigate the heart in vitamin B deficiency.

Grant 236: Charles W. Greene, professor of physiology and pharmacology, University of Missouri School of Medicine, $100, to investigate the pharmacology of the so-called specific coronary dilator drugs.

Grant 237: Louis N. Katz, director of cardiovascular research, Michael Reese Hospital, Chicago, $100, to investigate the action of drugs on the coronary circulation.

Grant 238: Roy R. Kracke, professor of pathology, Emory University School of Medicine, $250, to investigate the effect of the oxidation products of aminopyrine and related drugs on the leukocyte counts of rabbits.

Grant 239: John R. Murlin, director and professor of physiology, University of Rochester School of Medicine, $100, to investigate the absorption of insulin from the alimentary tract.

Grant 240: Kenneth W. Thompson, Peter Bent Brigham Hospital, Boston, $250, to investigate the effects of the thyroid stimulating hormone pituitary; its relationship to other substances in the possible control of hyperthyroidism.

Grant 241: George E. Wakerlin, associate professor of physiology and pharmacology, University of Louisville School of Medicine, $200, to investigate hematopoiesis.

Grant 242: Abraham White, Department of Physiological Chemistry, Yale University School of Medicine, $100, to investigate the metabolism of the essential amino acids, cystine, methionine and histidine.

Grant 243: Fred C. Koch, chairman of the Department of Physiological Chemistry and Pharmacology, the University of Chicago, $250, to investigate the antirachitic potency of irradiated sterols other than ergosterol.

Grant 245: Carl J. Wiggers, professor of physiology, Western Reserve University School of Medicine, $250, to investigate the usefulness of drugs in coronary thrombosis.

Grant 246: Treat B. Johnson, Sterling professor of chemistry, Yale University, $250, to investigate the pharmacologic action of some pyridine derivatives in relation to their chemical constitution.

Grant 247: Arthur W. Grace, Department of Medicine, Cornell University Medical College, $250, to investigate the use of antimonial compounds in the treatment of lymphogranuloma inguinale.

Grant 248: Fred C. Koch, chairman of the department of Physiological Chemistry and Pharmacology, the University of Chicago, $250, to investigate the testis hormone.

Grant 249: J. Percy Baumberger, associate professor of physiology, Stanford University, $200, to investigate the occurrence and oxidation-reduction potential of pigments in tumor cells.

Grant 250: A. R. McIntyre, professor of pharmacology, University of Nebraska College of Medicine, $100, to investigate the effects of the digitaloid bodies on the metabolism of dextrose by the cardiac musculature.

Grant 251: Bernard Fantus, professor of therapeutics, University of Illinois College of Medicine, $100, to investigate the titration of the antitoxic value of serum of patients who have received tetanus antitoxin.

Grant 252: Fred D. Weidman, professor of dermatologic research, University of Pennsylvania School of Medicine, $100, to investigate the causes of human blastomycosis.

Grant 253: Katharine I. Henderson, Department of Pharmacology, Western Reserve University School of Medicine, $300, to investigate the excretion of bismuth.

Report of the Committee on Scientific Research for 1935

During the year, eighty-seven formal applications received consideration and forty-six awards were made. The new grants support research in various medical fields. In practically all cases the money was turned over to the financial officer of the institution with which the grantee is connected, with the understanding that it would be subject to requisition by the grantee and that an accurate account of the expenditures would be kept. From recent reports by grantees it appears that as a rule their work is making satisfactory progress. The final or practically final results of work under forty-two grants have been published or are in the course of publication. The results of the work under six grants prior to 1935 are under preparation for publication. In the case of twenty-five grants prior to 1935 active work is still in progress, but in several cases reports on results have been published. In the case of four grants the files have been closed without the publication of any results. Refunds totaling $950.33 were made during the year of unexpended balances from grants.

At the end of 1935, 392 grants have been made by the committee since its establishment in 1903. The total amount expended is $147,936.09. Only two indications of the significance of this support of medical research are mentioned now: the rise to distinction in medical science of grantees whose early efforts at research were aided by the committee, and the

taking in hand by foundations of research projects work on which in the early stages received support from the committee.

The committee ventures to recommend that as nearly as possible the same appropriation be made for 1936 as for 1935,

Financial Statement for 1935

Balance, Jan. 1, 1935	$ 6,404.70	
Appropriation for 1935	13,750.00	
Refund, grant 233	18.48	
Refund, grant 266	186.89	
Refund, grant 301	.09	
Refund, grant 311	5.77	
Refund, grant 318	252.16	
Refund, grant 319	36.02	
Refund, grant 328	18.72	
Refund, grant 330	5.67	
Refund, grant 357	424.95	
Refund, grant 359	1.58	
		$21,105.03

Grants and Expenses Paid in 1935

Grant 347, Edward S. West	$ 300.00	
Grant 348, Phillips Thygeson	400.00	
Grant 349, Edward H. Schwab	200.00	
Grant 350, Frederic A. Gibbs	100.00	
Grant 351, W. O. Thompson	300.00	
Grant 352, W. J. Nungester	250.00	
Grant 353, Frank R. Menne	500.00	
Grant 354, Roy H. Turner	450.00	
Grant 355, Royall M. Calder	150.00	
Grant 356, Jay C. Davis	500.00	
Grant 357, John H. Foulger	500.00	
Grant 358, John Field	200.00	
Grant 359, Israel S. Kleiner	200.00	
Grant 360, A. M. Wright, J. J. Mulholland and F. W. CoTui	300.00	
Grant 361, P. L. Heitmeyer	100.00	
Grant 362, Lloyd Ziegler and Arthur Knudson	100.00	
Grant 363, Rachel E. Hoffstadt	100.00	
Grant 364, Dean A. Collins	200.00	
Grant 365, Ludwig A. Emge	500.00	
Grant 366, G. E. Burget	500.00	
Grant 367, R. Gault and A. C. Ivy	600.00	
Grant 368, Felix Saunders	250.00	
Grant 369, Harold Jeghers	150.00	
Grant 370, Richard L. Crouch	500.00	
Grant 371, A. Barnett	300.00	
Grant 372, John L. Ulrich	450.00	
Grant 373, Frank W. Allen	100.00	
Grant 374, Charles B. Huggins	400.00	
Grant 375, Heinrich Necheles	100.00	
Grant 376, Herbert F. Thurston	300.00	
Grant 377, Frederick A. Fender	600.00	
Grant 378, Wallace M. Yater	400.00	
Grant 379, Victor C. Myers (Donald E. Bowman)	650.00	
Grant 380, N. W. Popoff	600.00	
Grant 381, John R. Murlin	600.00	
Grant 382, L. S. Goodman, A. J. Geiger and L. N. Claiborn	250.00	
Grant 383, Harry Sobotka	300.00	
Grant 384, J. Louis Weller	108.00	
Grant 385, Erwin Brand and G. F. Cahill	200.00	
Grant 386, E. V. McCollum	150.00	
Grant 387, George D. Snell	500.00	
Grant 388, Tracy J. Putnam	150.00	
Grant 389, Tracy J. Putnam	150.00	
Grant 390, Abraham White	100.00	
Grant 391, Jessie L. King	50.00	
Grant 392, Edward H. Schwab	150.00	
Clerical expense	600.00	
Committee expense	277.66	
Printing and supplies	37.06	
		$14,872.72
Balance on hand		$ 6,232.31

namely, $12,550 for grants in aid of medical research and $1,200 for expenses of the committee.

The financial statement for 1935 is presented; also brief accounts of grants pending at the end of 1934 and a list of the grants made in 1935.

Respectfully submitted.

COMMITTEE ON SCIENTIFIC RESEARCH OF THE AMERICAN MEDICAL ASSOCIATION

LUDVIG HEKTOEN, Chicago, Chairman.
Term expires, 1936.

C. C. BASS, New Orleans.
Term expires, 1937.

JOHN J. MORTON, Rochester, N. Y.
Term expires, 1938.

N. W. JONES, Portland, Ore.
Term expires, 1939.

MARTIN H. FISCHER, Cincinnati.
Term expires, 1940.

GRANTS OF COMMITTEE ON SCIENTIFIC RESEARCH

NEW GRANTS—1935

Grant 347: Edward S. West, University of Oregon, $300, hydroxylated fatted acids in tissues.

Grant 348: Phillips Thygeson, State University of Iowa, $400, trachoma and "inclusion virus" disease of the genito-urinary tract.

Grant 349: Edward H. Schwab, University of Texas, $200, mechanism of cardiac hypertrophy.

Grant 350: Frederic A. Gibbs, Harvard Medical School, $100, fiber system in the cat's brain concerned in convulsions.

Grant 351: W. O. Thompson, Rush Medical College, $300, effect of enzymatic digestion on desiccated thyroid.

Grant 352. W. J. Nungester, Northwestern University, $250, experimental lobar pneumonia.

Grant 353: Frank R. Menne, University of Oregon, $500, metabolism of cholesterol in rabbits.

Grant 354: Roy H. Turner, Tulane University, $450, physiology of peripheral vessels.

Grant 355: Royall M. Calder, Kent School, Kent, Conn., 150, mechanism of pneumococcic inflammation.

Grant 356: Jay C. Davis, University of Minnesota, $500, coronary flow and lesions of the aortic valves.

Grant 357: John H. Foulger, University of Cincinnati, $500, marrow stimulants in the gastric contents of the hog.

Grant 358: John Field, Stanford University, $200, nitrated phenols and related compounds.

Grant 359: Israel S. Kleiner, New York Homeopathic Medical College, $200, analysis of various materials for cevitamic (ascorbic) acid.

Grant 360: A. M. Wright, J. J. Mulholland and F. W. CoTui, New York University, $300, physiology of sympathectomized dogs.

Grant 361: P. L. Heitmeyer, University of Oregon, $100, experimental uterine ovarian implants.

Grant 362: Lloyd H. Ziegler and Arthur Knudson, Albany Medical College, $100, activity after recovery from rickets.

Grant 363: Rachel E. Hoffstadt, University of Washington, $100, protein and carbohydrate fractions of Staphylococcus aureus.

Grant 364: Dean A. Collins, University of Minnesota, $200, hypertension following ligation of renal arteries in dogs.

Grant 365: Ludwig A. Emge, Stanford University, $500, effect of castration on malignant tumors.

Grant 366: G. E. Burget, University of Oregon, $500, physiology of cardiac portion of stomach.

Grant 367: Robert Gault and A. C. Ivy, American Institute for the Deaf-Blind, Evanston, Ill., $600, mechanical stimulation of the vibrotactile organs.

Grant 368: Felix Saunders, University of Chicago, $250, growth factors for bacteria.

Grant 369: Harold Jeghers, Boston University, $150, vitamin A deficiency in certain diseases.

Grant 370: Richard L. Crouch, University of Missouri, $500, connections of diencephalon.

Grant 371: A. Barnett, New York University, $300, measurement of impedance angle in thyrotoxicosis.

Grant 372: John L. Ulrich, Johns Hopkins University, $450, cerebral functions in the action of antagonistic muscles.

Grant 373: Frank W. Allen, University of California, $300, correlation of neucleotide content with glycolytic power of red blood cell in pernicious anemia.

Grant 374: Charles B. Huggins, University of Chicago, $400, relation of temperature to hematopoiesis.

Grant 375: Heinrich Necheles, Michael Reese Hospital, Chicago, $100, action of pitressin on gastro-intestinal motility.

Grant 376: Herbert F. Thurston, University of Indiana, $300, roentgen ray in treatment of gas gangrene.

Grant 377: Frederick A. Fender, Stanford University, $600, prolonged stimulation of parts of the nervous system.

Grant 378: Wallace M. Yater, Georgetown University Hospital, Washington, D. C., histopathologic basis of "bundle branch" block.

Grant 379: Victor C. Myers (Donald E. Bowman), Western Reserve University, $650, chemical test for pregnancy.

Grant 380: N. W. Popoff, Highland Hospital, Rochester, N. Y., $600, arteriovenous anastomosis.

Grant 381: John R. Murlin, University of Rochester, $600, testis hormone.

Grant 382: L. Goodman, A. J. Geiger and L. Claiborn, Yale University, $250, antianemic principle.

Grant 383: Harry Sobotka, Mount Sinai Hospital, New York, $300, enzymatic destruction of blood group carbohydrate.

Grant 384: J. Louis Weller, George Washington University, $108, action of certain substances on hematopoietic tissue of the chick.

Grant 385: Erwin Brand and G. F. Cahill, New York State Psychiatric Institute and Hospital, $200, cystinuria.

Grant 386: E. V. McCollum, Johns Hopkins University, $150, adaptation of the eyes to subdued light and its relation to vitamin A.

Grant 387: George D. Snell, Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, $500, hereditary changes in germ cells from x-rays.

Grant 388: Tracy J. Putnam, Boston City Hospital, Boston, $150, effect of low voltage current on nervous system.

Grant 389: Tracy J. Putnam, Boston City Hospital, Boston, $150, mechanism of cortical atrophy in dementia paralytica.

Grant 390: Abraham White, Yale University, $100, chemistry and metabolism of the sulfur of proteins.

Grant 391: Jessie L. King, Goucher College, $50, effect of cortical extract on rats.

Grant 392: Edward H. Schwab, University of Texas, $150, mechanism of cardiac hypertrophy.

STATE OF WORK UNDER PREVIOUS GRANTS

1. COMPLETED DURING THE YEAR

Grant 118, 1927: $1,000 to Edward Reynolds and E. A. Hooton, Harvard University, mechanism of erect posture. Reynolds, Edward, and Hooten, E. A.: Exploratory Study of the Relation of the Pelvis to the Erect Posture in Living Subjects, to be published in the *American Journal of Physical Anthropology* or in *Human Biology*.

Grant, 133, 1928: F. Lowell Dunn, University of Nebraska, $715, spectrophotometric analysis of biologic fluids (refund, $53.14). Dunn, F. Lowell: A. Cylindrical Rotating Sector Photometer, *Rev. Scient. Instruments* **2:** 807, 1931. Dunn, F. Lowell, and Sudman, A. T.: Ultraviolet Spectrophotometry of Human Blood Plasma, to be published in *Archives of Pathology*.

Grant 162, 1929: J. P. Simonds, Northwestern University, $100, action of cinchophen and its derivatives on the liver. Churchill, T. P., and Van Wagoner, F. H.: Cinchophen Poisoning, *Proc. Soc. Exper. Biol. & Med.* **28:** 581, 1931. Van Wagoner, F. H., and Churchill, T. P.: Production of Gastric and Duodenal Ulcers in Experimental Cinchophen Poisoning, *J. A. M. A.* **99:** 1859, 1932. Churchill, T. P., and Manshardt, D. O.: Experimental Production of Gastric and Duodenal Ulcers in Dogs in Cinchophen Poisoning, *Proc. Soc. Exper. Biol. & Med.* **30:** 825, 1933. Van Wagoner, F. H., and Churchill, T. P.: Production of Gastric and Duodenal Ulcers in Experimental Cinchophen Poisoning of Dogs, *Arch. Path.* **14:** 860, 1932.

Grant 198, 1931: Gilbert Dalldorf (Robert L. Dickinson), Grasslands Hospital, Valhalla, N. Y., $200 for a study of the human uterus by casts and other ways (refund, $94). The results will be incorporated in a book by Robert L. Dickinson on the Human Vaginal and Uterine Cavities.

Grant 203, 1931: W. J. Merle Scott, University of Rochester, $300, the rôle of the adrenal cortex in pyogenic infections (refund, $64.22). Scott, W. J. Merle, and others: The Influence of Adrenal Cortex Extract on the Resistance to Certain Infections and Intoxications, *Endocrinology* **17:** 529, 1933.

Grant 209, 1931: Wilbur A. Selle, University of Texas, $150, carbohydrate metabolism in its relation to the growth of tumors. See grant 243, 1932.

Grant 233, 1932: Detlev W. Bronk, University of Pennsylvania, $550, nervous regulation of the circulation (refund, $18.48). Bronk, D. W., and Ferguson, L. K.: Impulses in Cardiac Sympathetic Nerves, *Proc. Soc. Exper. Biol. & Med.* **30:** 339, 1932. Bronk, D. W., Ferguson, L. K., and Solandt, D. Y.: Inhibition of Cardiac Accelerator Impulses by the Carotid Sinus, *ibid.* **31:** 579, 1934. Gammon, George D. and Bronk, D. W.: Pacinian Corpuscles in the Mesentery and Their Relation to the Vascular System, *ibid.* **31:** 788, 1934. Bronk, D. W., and Stella, G.: The Response to Steady Pressures of Single End Organs in the Isolated Carotid Sinus, *Am. J. Physiol.* **110:** 708, 1935. Gammon, G. D., and Bronk, D. W.: The Discharge of Impulses from Pacinian Corpuscles in the Mesentery and Its Relation to Vascular Changes, *Am. J. Physiol.* **114:** 77, 1935.

Grant 239, 1932: Victor C. Jacobsen, Albany, $1,000, transplantable mouse melanoma (refund, $31.28). Jacobsen, Victor C., and Klinick, Gustavus H., Jr.: Melanin: I. Its Mobilization and Excretion in Normal and in Pathologic Conditions, *Arch. Path.* **17:** 141, 1934. Jacobsen, Victor C.: Melanin: II. A Review of Chemical Aspects of the Melanin Problem, *ibid.*, p. 391.

Grant 240, 1932: William D. McNally, Rush Medical College, $650, the effect of tobacco tar on the lungs of rats and other animals. McNally, W. D.: The Tar in Cigaret Smoke and Its Possible Effects, *Am. J. Cancer* **16:** 1502, 1932.

Grant 243, 1932: Wilbur A. Selle, University of Texas, $250, carbohydrate metabolism in its relation to the growth of tumors. See grant 209, 1931. Selle, W. A., and Bodansky, Meyer: Effect of Bromcaproic Acid on Rat Sarcoma, *Am. J. Cancer* **23:** 289, 1935.

Grant 265, 1932: S. W. Ranson, Northwestern University, Chicago, $400, structure and function of cutaneous nerves in man. Ranson, S. W.: Cutaneous Sensation, *Science* **78:** 395, 1933. (See grant 299, 1933.)

Grant 273, 1933: Gregory Shwartzman, Mount Sinai Hospital, New York, $400, study on antibodies to Rous sarcoma agent by local skin reactivity. Shwartzman, Gregory: Phenomenon of Local Skin Reactivity to Bacterial Filtrates in Relation to Rous Chicken Sarcoma Antibodies, *J. Infect. Dis.* **57:** 129, 1935.

Grant 278, 1933: Carl C. Speidel, University of Virginia, $100, the myelin nerve sheath with polarized light. See grant 303, 1933.

Grant 279, 1933: E. C. Faust, Tulane University, $800, Strongyloides stercoralis. See grant 321, 1935.

Grant 280, 1933: W. T. Dawson, University of Texas, $200, the relations between the chemical constitution and toxicity of cinchona alkaloids. Dawson, W. T., and others: Hydrocinchonidine and Hydrocinchonine in Malaria, *Am. J. Trop. Med.* **13:** 437, 1933. See grants 332 and 339, 1934.

Grant 281, 1933: Arthur Knudson and Lloyd Ziegler, Albany Medical College, $325, the remote effects of rickets in rats. Ziegler, L. H., and Knudson, A.: Study of Activity After Recovery from Rickets, to be published in *Journal of Comparative Psychology*. See grant 362, 1935.

Grant 282, 1933: Maurice B. Visscher, University of Illinois, $200, mechanical efficiency of the heart. Peters, H. C.; Rea, C. E., and Visscher, Maurice B.: Influence of Calcium Ions upon Energy Metabolism of the Mammalian Heart, *Proc. Soc. Exper. Biol. & Med.* **32:** 268, 1934. Visscher, Maurice B.: The Energy Metabolism of the Heart in Failure and the Influence of Drugs upon It, to be submitted for publication in *American Heart Journal* or *Journal of Experimental Medicine*.

Grant 284, 1933: Helen C. Coombs, New York Homeopathic Medical College and Flower Hospital, $600, the bromide treatment of experimental convulsions (refund, 60 cents). Coombs, Helen C.; Pike, F. H., and Searle Donald S.: The Relation of Contracture and Tetany to Experimentally Produced Calcium Deficiency in Cats, With and Without Lesions of the Cortical Motor Areas, *Endocrinology* **19:** 421, 1935.

Grant 294, 1933: Robert Hegner, Johns Hopkins University, $300, relation between intestinal starch and infections with protozoa. Hegner, Robert, and Eskridge, Lydia: Influence of Carbohydrates on Intestinal Protozoa in Vitro and in Vivo, *Am. J. Hyg.* **21:** 121, 1935.

Grant 299, 1933: S. W. Ranson, Northwestern University, $250, cutaneous nerves in man. (See grant 265, 1932). Ranson, S. W.: Number, Size and Myelination of the Sensory Fibers in the Cerebrospinal Nerves, chapter I of "Sensation: Its Mechanisms and Disturbances," *Proceedings of the Association for Research in Nervous and Mental Diseases*, Vol. 15, Baltimore, William & Wilkins Company, 1935.

Grant 301, 1933: Allen D. Keller, University of Alabama, $500, functions of brain stem (refund, 9 cents). Keller, A. D.: The Separation of the Heat Loss and the Heat Production Mechanism in Chronic Preparations, *Am. J. Physiol.* **113:** 78, 1935. Keller, A. D., and Noble, William: Adiposity with Normal Sex Function Following Extirpation of the Posterior Lobe of the Hypophysis in the Dog, *ibid.*, p. 79. Keller, A. D.: Protection by Peripheral Nerve Section of the Gastro-Intestinal Tract from Ulceration Following Hypothalamic Lesions, *ibid.*, p. 76. Keller, A. D.; Noble, William, and Keller, P. D.: Hypoglycemia Following Experimental Hypothalamic Lesions, *ibid.*, p. 80. Keller, A. D.: Observations on Ulceration in the Digestive Tract Following Intracranial Procedures in the Dog, accepted for publication in *Archives of Pathology*. Keller, Allen D., and D'Amour, Marie C.: Ulceration in the Digestive Tract Following the Procedure of Hypophysectomy in the Dog, accepted for publication in *Archives of Pathology*. Keller, Allen D.: Protection by Peripheral Nerve Section of the Gastro-Intestinal Tract from Ulceration Following Hypothalamic Lesions, accepted for publication in *Archives of Pathology*.

Grant 303, 1933: C. C. Speidel, University of Virginia, $250, study of living nerves. See grant 278, 1933. Speidel, Carl Caskey: Growth, Irritation and Repair of Nerves, *Arch. f. exper. Zellforsch.* **15:** 328, 1934. Speidel, Carl Caskey: Studies of Living Nerves, *J. Comp. Neurol.* **61:** 1, 1935, and *Biol. Bull.* **68:** 140, 1935.

Grant 304, 1933: Frederic A. Gibbs, Boston City Hospital, Boston, $200, convulsive center in the cat brain. See grant 350, 1935. Gibbs, Frederic A., and Gibbs, E. L.: The Convulsions Threshold of Various Parts of the Cat's Brain, *Arch. Neurology & Psychiat.*, to be published. Gibbs, Frederic A., and Gibbs, E. L.: A Purring Center in the Cat's Brain, submitted to *Journal of Comparative Neurology*.

Grant 305, 1933: John R. Murlin, University of Rochester, $500, effect of sex hormones on energy metabolism. See grants 331, 1934, and 381, 1935.

Grant 311, 1934: M. G. Seelig, Barnard Free Skin and Cancer Hospital, St. Louis, $250, radiosensitivity of neoplasms (refund, $5.77). Seelig, M. G., Eckert, C. T., and Cooper, Z. K.: The Relationship between Vascularity and the Reaction to Radium of Squamous Epithelium, *Am. J. Cancer* **25:** 585, 1935.

Grant 312, 1934: C. A. Hellwig, St. Francis Hospital, Wichita, Kan, $100, thyroid function in experimental colloid goiter. Hellwig, C. Alexander: Thyroid Adenoma in Experimental Animals, *Am. J. Cancer* **23:** 550, 1935. Hellwig, C. Alexander: The Thyroid Gland in Kansas, *Am. J. Clin. Path.* **5:** 103, 1935. Hellwig, C. Alexander: Experimental Goiter: Functional, Chemical and Histologic Studies, *Arch. Path.* **19:** 364, 1935.

Grant 313, 1934: L. A. Emge, Stanford University, $300, relation between pregnancy and tumor growth. See grants 341, 1934, and 365, 1935. Emge, L. A.: The Influence of Pregnancy on Tumor Growth, *Am. J. Obst. & Gynec.* **28:** 682, 1934.

Grant 315, 1934: Phillips Thygeson, University of Iowa, $300, virus diseases of the eye. See grant 348, 1935. Thygeson, Phillips: The Etiology of Inclusion Blennorrhea, *Am. J. Ophth.* **17:** 1019, 1934. Thygeson, Phillips, and Proctor, Francis I.: The Filtrability of Trachoma Virus, *Arch. Ophth.* **13:** 1018, 1935.

Grant 318, 1934: Charles J. Sutro, Hospital for Joint Diseases, New York, $300, for work with the fluorescent microscope (refund, $252.16). Sutro, Charles J., and Burman, Michael S.: Practical and Experimental Uses of Fluorescence in Medicine, *Arch. Phys. Therapy, X-Ray, Radium* **16:** 71, 1935.

Grant 319, 1934: J. Paul Visscher, Western Reserve University, $1,000 for work by Donald E. Bowman on a chemical test for pregnancy. Visscher, J. P., and Bowman, Donald E.: Chemical Determination of Pregnancy, *Proc. Soc. Exper. Biol. & Med.* **31:** 460, 1934. Bowman, D. E.; Visscher, J. P., and Mull, J. W.: Possible Application of Chemical Reactions in the Determination of Pregnancy, *ibid.* **32:** 522, 1934. Bowman, D. E.: Application of the Oxidation Reduction Potential of the Anterior Pituitary and Related Hormones as a Test for Pregnancy, in the course of publication. See grant 379, 1935.

Grant 320, 1934: M. L. Tainter, Stanford University, $1,000, metabolic actions of dinitrophenol in man. Tainter, Maurice L.; Cutting, W. C., and Stockton, A. B.: Use of Dinitrophenol in Nutritional Disorders, *Am. J. Pub. Health* **24:** 1045, 1934. Tainter, M. L., Stockton, A. B., and Cutting, W. C.: Dinitrophenol in the Treatment of Obesity, J. A. M. A. **105:** 332, 1935. Tainter, M. L., Cutting, W. C., and Hines, Elizabeth: Effects of Moderate Doses of Dinitrophenol on the Energy Exchange and Nitrogen Metabolism of Patients under Conditions of Restricted Dietary, *J. Pharmacol. & Exper. Therap.* **55:** 326, 1935.

Grant 321, 1934: Ernest C. Faust, Tulane University, $800 for completion of study on Strongyloides stercoralis. See grant 279, 1933. Faust, Ernest Carroll; Wells, J. W., Adams, C., and Beach, T. D.: The Fecundity of Parasitic Female Strongyloides, *Proc. Soc. Exper. Biol. & Med.* **31:** 1041, 1934. Faust, Ernest Carroll; Wells, J. W.; Adams, C., and Beach, T. D.: Experimental Studies on Human and Primate Species of Strongyloides, *Arch. Path.* **18:** 605, 1934. Beach, Ted D.: Experimental Propagation of Strongyloides in Culture, *Proc. Soc. Exper. Biol. & Med.* **32:** 1484, 1935. Faust, Ernest Carroll: Experimental Studies on Human and Primate Species of Strongyloides, *Arch. Path.* **19:** 769, 1935.

Grant 323, 1934: Edward J. Van Liere, West Virginia University, $300, effect of anoxemia on smooth muscle. Van Liere, Edward J.; Crisler, George, and Wiles, I. A.: The Effect of Anoxemia on the Pyloric Sphincter, *Am. J. Physiol.* **111:** 330, 1935. Van Liere, Edward J.: The Effect of Anoxemia on the Emptying Time of the Human Stomach, *Arch. Int. Med.*, to be published. Van Liere, Edward J.: The Effect of Ephedrine on the Emptying Time of the Human Stomach, J. A. M. A., to be published.

Grant 326, 1934: Rachel E. Hoffstadt, University of Washington, $200, protein and carbohydrate fractions of Staphylococcus aureus. See grant 363, 1935. Hoffstadt, Rachel E., and Clark, Wesley M.: Studies on the Antigenic Structure of the Variants of Staphylococcus Aureus: I. The Carbohydrates of the Rough and Smooth Forms of Staphylococcus Aureus *J. Infect. Dis.* **56:** 250, 1935.

Grant 328, 1934: W. R. Tweedy, Loyola University, $300, parathyroid hormone (refund, $18.72). Roberts, R. G.; Tweedy, W. R., and Smullen, G. H.: Some Reactions of Ammonolyzed Parathyroid Hormone, *J. Biol. Chem.* **112:** 209, 1935.

Grant 329: Jane Sands Robb, Syracuse University, $300 for further study of individual cardiac muscle. Robb, Jane Sands; Easby, M., and Hiss, J. G. Fred: Experimental Interference with Conduction in the Heart, *Am. J. M. Sc.* **188:** 835, 1934. Robb, Jane Sands: The Structure of the Mammalian Ventricle and the Mammalian Auricle, *M. Woman's J.*, March 1934. Robb, Jane Sands: A Historical Survey of Studies of Ventricular Structure, *ibid.*, August 1934. Robb, Jane Sands; Dooley, M. S.; Hiss, J. G. F., and Robb, R. C.: The Effect of Ouabain upon the Type of Electrocardiogram Resulting from Specific Muscle Lesions, *Am. J. Physiol.* **113:** 110, 1935. Robb, Jane Sands, and Robb, Robert C.: The Pathway of the Excitatory Process in the Mammalian Ventricle, *ibid.*, p. 111. Robb, Jane Sands, and Robb, Robert C.: Experimental Cardiac Muscle Lesions in the Monkey, ibid., p. 111. Robb, Jane Sands, and Robb, Robert C.: The Distribution of the Coronary Vessels to the Ventricular Muscle Bands, ibid., p. 111. Robb, Jane Sands; Robb, Robert C., and Hiss, J. G. Fred: Localization of Premature Beats in the Mammalian Ventricle, *Proc. Soc. Exper. Biol. & Med.* **32:** 1510, 1935. Robb, Jane Sands; Hiss, J. G. Fred, and Robb, Robert C.: Localization of Cardiac Infarcts According to Component Ventricular Muscles, *Am. Heart J.* **10:** 287, 1935. Medal, Scientific Exhibit, A. M. A., 1935.

Grant 330, 1934: Alexander S. Wiener, Jewish Hospital of Brooklyn, $150, agglutinogens and agglutinins of human blood and their heredity (refund, $5.67). Wiener, A. S.: Medicolegal Applications of Blood Grouping, with Special Reference to the Agglutinogens M and N of Landsteiner and Levine, *Canad. M. A. J.* **32:** 393, 1935. Wiener, A. S.: The Agglutinogens M and N of Landsteiner and Levine, chapter XI of Blood Groups and Blood Transfusion, Springfield, Ill., Charles C. Thomas, 1935, p. 119.

Grant 331, 1934: John R. Murlin, University of Rochester, $900, the male hormone and metabolism. See grants 305, 1933, and 381, 1935. Kochakian, Charles D., and Murlin, John Raymond: The Effect of Male Hormone on the Protein and Energy Metabolism of Castrate Dogs, *J. Nutrition* **10:** 437, 1935.

Grant 332, 1934: W. T. Dawson, University of Texas, $100, cinchona alkaloids. See grants 280, 1933, and 339, 1934.

Grant 334, 1935: H. A. Kemp, W. H. Moursund and H. E. Wright, Baylor University, $267.05, relapsing fever in Texas (refund, $51.25). Kemp, Hardy A.; Moursund, W. H., and Wright, H. E.: Relapsing Fever in Texas, *Am. J. Trop. Med.* **15:** 495, 1935.

Grant 335, 1935: Erwin Brand and G. F. Cahill, New York State Psychiatric Institute and Hospital, $200, cystinuria. Brand, Erwin; Cahill, George F., and Harris, Meyer M.: Cystinuria: The Metabolism of Cystine, Cysteine, Methionine and Glutathione, *J. Biol. Chem.* **109:** 69, 1935. Brand, Erwin, and Cahill, George F.: Cystinuria: The Metabolism of Serine, *ibid.*, p. 545. Brand, Erwin; Cahill, George F., and Block, Richard J.: Cystinuria: The Metabolism of Homocysteine and Homocystine, *ibid.* **110:** 399, 1935. See grant 385, 1935.

Grant 339, 1934: W. T. Dawson, University of Texas, $100, relation between chemical constitution and physiologic action of cinchona alkaloids. See grants 280, 1933, and 332, 1934. Dawson, W. T., and Harms, H. P.: Toxicity of Quinine, Quinidine, Hydroquinidine and Hydrocinchonidine in the Guinea-Pig, *Proc. Soc. Exper. Biol. & Med.* **32:** 595, 1935. Dawson, W. T.: Influence of Site of Subcutaneous Injection upon Toxicity Figures, *ibid.*, p. 596. Bodansky, Oscar, and Dawson, W. T.: Subnormal Temperatures from Poisoning in Relation to Toxicity Determination, *ibid.*, p. 749. Damson, W. T., and Bodansky, Oscar: Chemical Constitution and Convulsant Action of Cinchona Bases, *J. Pharmacol. & Exper. Therap.* **54:** 140, 1935.

Grant 359, 1935: Israel S. Kleiner, New York Homeopathic Medical College, $200, presence of cevitamic (ascorbic) acid in foodstuffs (refund, $1.58). Tauber, Henry, and Kleiner, Israel S.: An Enzymic Method for the Estimation of True Vitamin C, *J. Biol. Chem.* **110:** 559, 1935. Tauber, Henry, and Kleiner, Israel S.: The Antiscorbutic Value of Dandelion, *Science* **82:** 552, 1935.

2. INCOMPLETE

A. WORK UNDER THE GRANT COMPLETED, ACCOUNT RENDERED OF EXPENSES BUT RESULTS NOT PUBLISHED FULLY

Grant 174, 1930: Alfred R. Ross, College of Medical Evangelists, Loma Linda, Calif., $1,455, hay fever pollens in the Southwest.

Grant 179, 1930: George T. Pack, Memorial Hospital, New York, $300, certain clinicopathologic problems of melanoma. (See grant 231, 1932.)

Grant 231, 1932: George T. Pack, Memorial Hospital, New York, $500, complete analysis of 300 cases of melanoma. (See grant 179, 1930.)

Grant 238, 1932: Harold E. Himwich, Yale University, $1,000, the relation of the autonomic nervous system to metabolism and effect of alcohol on metabolism. Himwich, H. E., and associates: Effects of Alcohol on Metabolism, *Am. J. Physiol.* **101:** 57, 1932; Metabolism of Alcohol, J. A. M. A. **100:** 651, 1933.

Grant 269, 1932: M. M. Wintrobe, Johns Hopkins Hospital, $250, vertebrate red corpuscles. Wintrobe, M. M.: Variations in the Size and Hemoglobin Content of Erythrocytes in the Blood of Various Vertebrates, *Folia haemat.* **51:** 32, 1933. Wintrobe, M. M., and Shumacker, H. B., Jr.: Comparison of Hematopoiesis in the Fetus and During Recovery from Pernicious Anemia, *J. Clin. Investigation* **14:** 837, 1935.

Grant 276, 1933: Jessie L. King, Goucher College, Baltimore, $75, effect of cortical extract on suprarenalectomized rats. See grant 391, 1935.

B. ACTIVE WORK STILL IN PROGRESS

Grant 218, 1931: Clayton, J. Lundy, Rush Medical College, Chicago, $1,000 toward making animated motion pictures of the actions of the heart in health and in disease. See description of film showing normal heart action in THE JOURNAL, Dec. 23, 1933, page 2078. Honorable Mention, Scientific Exhibit, A. M. A., 1933.

Grant 254, 1932: J. Lisle Williams, McCormick Institute, Chicago, $200, decreased dextrose tolerance in acute infectious diseases.

Grant 277, 1933: Gustav Zechel, University of Illinois, $260, study of growing malignant cells by moving photomicrographs. Zechel, G.: A Timing Device for Taking Motion Pictures, *Science* **81:** 23, 1935.

Grant 286, 1933: F. H. Pike, Columbia University, $600, the effects of successive experimental lesions of the nervous system.

Grant 287, 1933: Thomas D. Masters, Springfield Hospital, Springfield, $100, available dextrose in certain common foodsutffs.

Grant 297, 1933: Erma A. Smith, Iowa State College, $150, effect on the rat of sublethal amounts of illuminating gas. Smith, Erma; McMillan, E., and Mack, Lillian: Factors Influencing the Lethal Action of Illuminating Gas, *J. Indust. Hyg.* **17:** 18, 1935. Williams, I. R., and Smith, Erma: Blood Picture, Reproduction, and General Condition During Daily Exposure to Illiminating Gas, *Am. J. Physiol.* **110:** 611, 1935.

Grant 308, 1933: John L. Ulrich, Johns Hopkins University, $250, the reflex system in the cat.

Grant 309, 1933: Carroll L. Birch, University of Illinois, $300, assay of urine for sex hormone of the anterior pituitary.

Grant 310, 1934: Lay Martin, Johns Hopkins University, $150, study of gastric juice.

Grant 314, 1934: Bernard Portis, Michael Reese Hospital, Chicago, $300, immune reactions of Flexner-Jobling rat tumor.

Grant 317, 1934: M. D. Overholser, University of Missouri, $300, experimental growths in genital tract of monkeys and relation of anterior hypophysis to diabetes. Nelson, W. O., and Overholser, Milton D.: Effect of Oestrin Injections upon Experimental Pancreatic Diabetes in the Monkey, *Proc. Soc. Exper. Biol. & Med.* **32:** 150, 1934.

Grant 322, 1934: W. J. Nungester, Northwestern University, $130. the effect of mucin on infection.

Grant 324, 1934: William deB. MacNider, University of North Carolina, $285, study of artificial circulation in the kidney.

Grant 327, 1934: Timothy Leary, Office of Medical Examiner, Boston, $800 for study of cholesterol atherosclerosis in rabbits.

Grant 333, 1934: Arthur J. Geiger and Louis S. Goodman, Yale University, $250, study of antianemic principle. (See also grant 340, 1934, and grant 382, 1935). Goodman, L. S.; Geiger, A. J.; and Claiborn, L. N.: Antianemia Potency of Liver After Gastrectomy in Swine, *Proc. Soc. Exper. Biol. & Med.* **32:** 810, 1935.

Grant 336, 1934: Charles H. Frazier, University of Pennsylvania, $751, autonomic representation of the urinary bladder in the cerebral cortex and in hypothalamus.

Grant 337, 1934: James L. O'Leary, Washington University, $245, Loven reflexes.

Grant 338, 1934: W. W. Brandes, Baylor University, $150, the effect of acidosis on antibodies and resistance to infection.

Grant 340, 1934: Louis S. Goodman and Arthur J. Geiger, Yale University, $200, further study of antianemic principle. See grants 333, 1934, and 382, 1935.

Grant 341, 1934: Ludwig A. Emge, Stanford University, $500, pregnancy and tumor growth. See grants 313, 1934, and 365, 1935.

Grant 342, 1934: S. S. Lichtman, Mount Sinai Hospital, New York, $400, bile salt metabolism in liver disease.

Grant 343, 1934: John Guttman, Post-Graduate Medical School and Hospital, New York, $400, relation between electrical disturbances in cochlea and the sensation of hearing.

Grant 344, 1934: Paul L. Day and W. C. Langston, University of Arkansas, $300, effect of withdrawal of vitamin G from diet of monkeys.

Grant 345, 1934: Emile Holman, Stanford University, $400, study by Frederic Fender of prolonged stimulation of the nervous system. See grant 377, 1935.

Grant 346, 1934: William Antopol, Mount Sinai Hospital, New York, $250, relationship of acetylcholine to carbohydrate metabolism. Tuchman, L.; Schifrin, A., and Antopol, W.: Blood Amylase Response to Acetyl-Beta-Methylcholine Chloride in Pancreatectomized Dogs, *Proc. Soc. Exper. Biol. & Med.* **33:** 142, 1935.

3. DISCONTINUED (NO RESULTS PUBLISHED)

Grant 247, 1932: Wilson, D. Langley, University of Buffalo, $250 for work on the formation of acetone bodies in diabetic animal tissue.

Grant 259, 1932: Daniel A. McGinty, Emory University, $150 for study of lactic acid, dextrose and oxygen, absorption and carbon dioxide production by heart muscle (refund, $125.49).

Grant 266, 1932: Herbert S. Landes, Loyola University, Chicago, $400 for study of the mechanics of residual urine (refund, $186.89).

Grant 357: John H. Foulger, University of Cincinnati, $500 for study of marrow stimulants in the gastric contents of the hog (refund, $424.95).

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ending December 31, 1935

Reserve Invested as at December 31, 1934	$2,224,780.64	
Less Bonds Called	134,365.95	$2,090,414.69
Balance for Investment December 31, 1934	$ 63,270.40	
Interest on Investments	83,793.04	147,063.44
Invested and Uninvested Reserve as at December 31, 1935		$2,237,478.13

DAVIS MEMORIAL FUND

Balance Fund December 31, 1934	$6,773.03	
1935 Interest on Bank Balance	136.13	
Total Fund as at December 31, 1935 on Deposit		$ 6,909.16

HERMAN L. KRETSCHMER, Treasurer.

AUDITOR'S REPORT

January 29, 1936.

To the Board of Trustees,

American Medical Association, Chicago, Illinois.

Dear Sirs:

In accordance with your instructions, we have made an examination of the Balance Sheet of the American Medical Association, Chicago, Illinois, as at December 31, 1935, and of the Income Account for the year 1935. In connection therewith, we examined or tested accounting records of the Association and other supporting evidence and obtained information and explanations from officers and employees of the Association; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions. We now submit our report on the examination, together with related statements as enumerated in the index appended hereto.

In our opinion, based on such examination, the accompanying Balance Sheet and relative Income Account fairly present the position of the Association as at December 31, 1935, and the result of its operations for the year ended on that date, subject to the following qualifications and observations:

(1) The inventories of Materials, Supplies and Work in Progress in the amount of $71,530.59 are stated in accordance with affidavits sworn to by responsible officials of the Association and have not been confirmed by us in any way.

(2) In accordance with the established practice of the Association, no provision has been made for (a) accrued interest on bonds, (b) membership dues unpaid, (c) accrued salaries and wages, (d) accrued property taxes for the year 1935, and (e) accrued legal fees.

(3) Subscriptions paid in advance represent an estimated amount based on cash received for subscriptions for the year 1936, received in the month of December 1935. This conforms with the method used in prior years.

(4) Advance payments on publications represent an estimated amount of prepaid subscriptions to Hygeia $124,003.05 plus $22,858.00 received in advance for January advertising and directory sales and service.

(5) No liability has been set up for construction work on that portion of the new addition to the Association building which had been completed in accordance with the architect's certificate but unpaid for as at December 31, 1935, to the extent of $31,500.00.

Under date of August 15, 1934, the Association property was appraised by the American Appraisal Company. The value of the property as shown by the appraisal was considerably in excess of the book value of the property. It was decided by the Board of Trustees not to place the appraisal value on the books of account. As recommended by the appraisal company the rates of depreciation now used are 2½% on buildings and 5% on machinery and equipment calculated on the diminishing book values.

We have received a letter from Messrs. Loesch, Scofield, Loesch and Burke, acting as attorneys for the Association, stating that at December 31, 1935, the only lawsuit pending against the Association was one filed by Charles R. Wiley et al on or about the 14th day of September, 1935, in the amount of $300,000.00 for alleged libel. The attorneys for the Association state in their letter that "basing our opinion upon the experience of the past thirty years we express confidence in defeating this action." We have also received a certificate from an official of the Association stating that at December 31, 1935, there were no contingent liabilities except the lawsuit here referred to.

Fidelity insurance is carried against the undermentioned officers and employees of the Association in the amounts here stated:

Dr. Olin West, General Manager	$10,000.00
Dr. Herman L. Kretschmer, Treasurer	10,000.00
E. C. Shelly, Cashier	10,000.00
E. A. Hoffman, Assistant Cashier	2,000.00
Sundry Employees (eight, $1,000.00 each)	8,000.00
Total Fidelity Insurance	$40,000.00

We have pleasure in reporting that the books are well maintained and that every facility was afforded us for the proper conduct of the examination.

Yours truly, PEAT, MARWICK, MITCHELL & Co.

INDEX TO STATEMENTS

	Exhibit
Balance Sheet, as at December 31, 1935	"A"
Income Account, for the year ended December 31, 1935	"B"
	Schedule
Journal Operating Expenses, for the year ended Dec. 31, 1935	"1"
Association and Miscellaneous Expenses, for the year ended December 31, 1935	"2"

EXHIBIT "A"

BALANCE SHEET AS AT DECEMBER 31, 1935

ASSETS:		
Property and Equipment (at cost, less depreciation):		
Real Estate and Building		$ 699,225.92
Machinery		98,415.82
Type and Metal		13,041.69
Furniture and Equipment		54,267.69
Chemical Laboratory		2,613.22
Total Property and Equipment		$ 867,564.34
Investments (at cost):		
U. S. Government Securities	$1,153,910.56	
Railroad, Municipal and Other Bonds	936,504.13	2,090,414.69
Cash held by Treasurer for Investment		147,063.44
Cash in Banks and on Hand		488,032.69
Accounts Receivable:		
Advertising	$47,803.53	
Co-operative Medical Advertising Bureau	11,944.37	
Reprints	3,651.11	
Miscellaneous	4,901.24	68,300.25
Inventories of Materials, Supplies and Work in Progress		71,530.59
Expenditures on Publications in Progress		85,798.99
Prepaid Expenses—Insurance, etc.		2,397.58
Total		$3,821,102.57
LIABILITIES:		
Accounts Payable:		
Co-operative Medical Advertising Bureau		$ 11,552.38
Miscellaneous		260.23
		$ 11,812.61
Subscriptions paid in Advance		103,765.15
Advance Payments on Publications		146,861.05
Advance Payments on Exhibit Space		8,965.00
Net Worth:		
Association Reserve Fund	$ 250,000.00	
Building Reserve Fund	750,000.00	
Capital Account:		
Amount thereof as at December 31, 1934	$2,438,312.41	
Net Income for the year ended December 31, 1935	111,386.35	2,549,698.76
Net Worth as at December 31, 1935		3,549,698.76
Total		$3,821,102.57

EXHIBIT "B"

INCOME ACCOUNT

FOR THE YEAR ENDED DECEMBER 31, 1935

JOURNAL:		
Gross Earnings:		
Fellowship Dues and Subscriptions		$ 601,559.31
Advertising		767,231.17
Jobbing		98,624.68
Reprints		4,480.11
Books		9,811.03
Insignia		5,964.21
Miscellaneous Sales		5,673.37
Interest		128.31
Gross Earnings from Journal		$1,493,472.19
Operating Expenses—Schedule "1"		888,799.50
Net Earnings from Journal		$ 604,672.69
Miscellaneous Income:		
Rents	$ 1,200.00	
Sundry Publications	3,606.00	4,806.00
Association Income:		
Income from Investments	$ 83,493.04	
Miscellaneous Income	3,390.66	86,883.70
Gross Income		$ 696,362.39
Association Expenses—Schedule "2"	$409,679.18	
Miscellaneous Expenses—Schedule "2"	175,296.86	584,976.04
Net Income		$ 111,386.35

SCHEDULE "1"

JOURNAL OPERATING EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1935

Wages and Salaries			$428,213.34
Editorials, News and Reporting			10,867.15
Paper—Journal Stock			198,963.16
Paper—Miscellaneous			3,794.78
Electrotypes and Engravings			14,895.14
Binding			1,223.46
Ink			6,828.73
Postage—First Class			37,385.84
Postage—Second Class			54,606.00
Journal Commissions			15,379.58
Collection Commissions			714.04
Discounts			28,699.77
Express and Cartage			5,324.91
Exchange			2,530.17
Office Supplies			4,537.61
Telephone and Telegraph			3,877.70
Office Jobbing			13,021.70
Power and Light			7,660.04
Factory Supplies			10,300.92
Repairs and Renewals—Machinery			7,950.03
Miscellaneous Operating Expenses			22,680.83
Losses on Bad Debts and Sales of Equipment			622.23
Total Journal Operating Expenses before Provision for Depreciation			$880,077.13
Depreciation on Equipment (Computed on diminishing balances):			
Machinery	% 5	$5,179.78	
Furniture and Equipment	% 5	2,438.77	
Factory Equipment	% 5	417.42	
Type	% 5	312.38	
Metal	% 5	374.02	8,722.37
Total Journal Operating Expenses			$888,799.50

SCHEDULE "2"

ASSOCIATION AND MISCELLANEOUS EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1935

Association Expenses:	
Association	$114,631.88
Health and Public Instruction	20,598.98
Pharmacy and Chemistry	43,188.54
Chemical Laboratory	23,727.06
Medical Education and Hospitals	80,110.81
Therapeutic Research	4,206.64
Legal Medicine and Legislation	33,406.96
Bureau of Investigation	20,423.45
Bureau of Medical Economics	34,952.73
Food Committee	15,376.34
Physical Therapy	15,000.96
Bureau of Association Exhibits	3,917.28
Laboratory Depreciation (5% on diminishing balances)	137.55
Total Association Expenses	$409,679.18
Miscellaneous Expenses:	
Insurance and Taxes	$ 15,301.32
Legal and Investigation	6,887.32
Building Expenses	29,325.88
Building Depreciation (2.5% on diminishing balances)	9,828.40
Fuel	6,592.11
Sundry Publications	107,361.83
Total Miscellaneous Expenses	$175,296.86

REPORT OF THE JUDICIAL COUNCIL

To the Members of the House of Delegates of the American Medical Association:

The Judicial Council has had but one interim meeting during the last year. This does not mean that the number of problems brought by individuals and organizations is decreasing but that these problems are in most part similar to those already considered by the full council and can be handled through correspondence by the secretary or chairman. In fact, there has been a very large correspondence on ethical subjects.

COOPERATION WITH COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

Certain recommendations made in the last annual report of the Judicial Council and approved by the 1935 House of Delegates to the end that closer cooperation between the Judicial Council and the Council on Medical Education and Hospitals be developed have been complied with. The chairman attended a meeting of the Council, explained the need for closer study between the councils, and was assured that the desire of the House of Delegates would receive sympathetic compliance. The Judicial Council believes that the way thus has been opened for classification of and assistance in some of the problems of the general medical profession which come before it for advice, assistance and decision.

An instance illustrative of the need of joint consideration has recently arisen in which a state legislature has passed a law admitting patients to state medical institutions on certificate of osteopaths, which matter is now under consideration. The proposal for treatment of the patients in such state institutions by osteopaths on an equality with such responsibility as heretofore has been assigned only to doctors of medicine may not be many years removed. The problem of maintaining the quality of professional service now given these patients against degradation or dilution of quality of medical care by the mixing of low standard osteopathic practice with scientific practice will then arise, as will also the same problems with respect to the education of medical students in the university and the training of interns in the hospitals connected with it. In those states where such proposals appear to be under consideration, every effort of the doctors of medicine should be made to prevent action so disastrous to the welfare of the people of the state as a lowering of the quality of medical care. It would hardly seem possible that the people of any state through its legislature would by choice lower the quality of medical service available to its wards in its state institutions below that now easily obtainable. It would seem hardly possible that a state would desire to educate its medical students in theories and practices proved unsound by world wide scientific study. It is even less conceivable that any young man desiring a real and scientific education would knowingly choose such a school with its consequent modification of his privilege to enter licensed practice in another state either through reciprocity or by examination. Another deterring factor to the prospective student would at once arise in the question as to the approval of a hospital operated in connection with such a school as a proper institution for intern and resident training.

PATENTS

The matter of patenting medical remedies and appliances was investigated some five years ago by the Judicial Council to determine the advisability of a change in the present ethical rule. As a result of opinions obtained from all sections of the country from recognized medical leaders and through its own deliberations, no essential change was recommended to the House of Delegates, although current procedures in many instances were considered far from satisfactory. The subject is at present under investigation by a committee representative of national organizations similarly interested. The American Medical Association has been invited to cooperate to the extent that its Judicial Council for mutual enlightenment and benefit discuss the medical point of view with this committee. A satisfactory solution for this aggravating problem may not be evolved, but

it is gratifying to have recognized that medicine has a similar difficult problem as other professions and to be asked to furnish such experience and assistance as may be of benefit to the whole group.

CHARGES AND TRIALS

Repeatedly the Judicial Council has called attention to the necessity of closely following proper procedure in the conduct of trials based on charges against members of component and constituent organizations and of the necessity of coordinating the governing by-laws of the state association and its component societies. Apparently the many warnings have not reached the ears of the officers and controlling boards of many state and county societies responsible for action. An example of this disregard for legal principles and constitutional procedure involved a case of such prominence that the decision of the Judicial Council was published in full in a recent issue of THE JOURNAL. It must be remembered that the Judicial Council is in no position to judge of the facts involved in any local trial; that it has no knowledge of the facts developed at the trial except a written transcript of the trial, which almost invariably is so incomplete and confused as to inspire serious question as to its value, and that it has no opportunity to review the results of cross-examination and therefore is very properly barred by the constitution from consideration of the facts and testimony as to facts except as related to law and procedure under which a given trial is conducted. It must also be remembered that orderly procedure and common legal principles are the right of and a protection to innocent and guilty alike. The Judicial Council refrains from taking advantage of technicalities either for or against accused but seeks to judge fairly on the principles underlying them. The Judicial Council recommends that the delegates from state associations bring this portion of its report to the serious attention of the responsible administering officers and boards of the societies they represent.

GROUP HOSPITALIZATION

Group hospitalization and individual hospital insurance plans have been rapidly spreading during the last few years as an effort on the part of hospitals to collect full payment for the hospitalization of people of low income groups who in the past have been and in the future will otherwise be unable to pay their hospital costs. This effort has been accentuated by the recent increase in the numbers of such cases combined with a great reduction in hospital income from endowment funds and public contributions. It is an effort at self preservation and secondarily to fix responsibility on a group that during the depression has been rapidly growing among those who have little sense of personal responsibility and rather expect government or charity to care for their needs. Hospital insurance as an economic device now exists almost nationally and is spreading. The American Hospital Association and various state hospital associations are actively promulgating it.

Whether the scheme is or is not financially or economically sound is not the problem of our organization, but it is our business to see that the furnishing of medical service is not included in the sale of insured hospital accommodations. This can be done if a strong stand is taken and maintained by the organized medical profession, which must keep a watchful eye to see that medical care is not initially or later included when the usual sales efforts demand increased benefits to purchasers. It is well known that at the present time independently of the hospital insurance movement various hospitals are invading the field of the practice of medicine, sometimes at and sometimes against the desire of the members of our profession involved in such instances. It would seem that in this time of extensive changes in hospital economics the point had arrived at which further marriages between hospitals and staff physicians that make the doctor of medicine the servant of the hospital should be stopped and a series of attempts at divorce among marriages that have already taken place should be instituted. Our accepted ethical principles are adequate at the present time and the cooperation of the Council on Medical Education and Hospitals would be of invaluable assistance. It is not an impossible task but will need a militant local and national ethical spirit behind it and a frowning on those individuals in the profession who on personal grounds do not object to the gradual subjugation of the medical profession in the growth of hospital domination.

ASSOCIATION WITH CULTS

There are several general ethical principles underlying cult practice in its relation to medical practice as carried out by doctors of medicine. Primarily the basis for an ethical code is the well being of the people at large, who are dependent on the profession of medicine for their health. The profession of medicine is the custodian of the accumulated knowledge in medicine and should use it for the benefit of humanity. This knowledge, technical in nature and developed by experience, can be interpreted to the body of the people only by persons educated to understand it and trained to apply it. Of all those professing to heal the sick only the doctor of medicine has sufficient education and training to make use of the information already accumulated and keep abreast of that being developed continuously. We grant that even though this is true no one is compelled to choose only from this group in selecting his medical attendants. The individual may elect to receive his medical care from himself, his neighbor, osteopathy, chiropractic, naturopathy or Christian science, but he is not entitled while under the care of such irregulars to demand that the man educated in scientific medicine furnish opinion and advice to one so far deficient in education that he cannot so understand and apply that opinion and advice as to be able to make satisfactory use of it. Such degrading consultation would cheat the patient out of that which he might expect and the subsequent failure of results bring discredit on the science of medicine. If this is true of the occasional individual consultation, how much greater must it be in the case of repeated or continual miscegenation!

The Judicial Council is in receipt of much correspondence attempting to justify if not to advocate consultations between doctors of medicine and chiropractors, osteopaths, Christian scientists and other cultists and irregular practitioners; also appearance before their societies, teaching in their schools, and their admittance to hospital practice on a parity with the medical profession. The universal argument for all the procedures mentioned is based on the false premise "to work them gradually into regular medicine." One of our principles of ethics is as follows: "The obligation assumed on entering the profession . . . demands that the physician use every honorable means to uphold the dignity and honor of his vocation, to exalt its standards and to extend its sphere of usefulness." Such specious argument as mentioned above seems to the Council to lack substance and be unreal. It seems impossible that knowledge gained through years of scientific laboratory work and teaching can be assimilated by those of less preliminary training and use of scientific methods of investigation and practice ever to fit them to enter a profession the dignity and honor of which, the standards and sphere of influence of which, we are obligated to uphold, exalt and extend for the service the profession can render to humanity. We further are of the opinion that it is just as unpractical to suggest that the small percentage of cult practitioners will through close relationship with the membership of our profession be raised to our professional standards as it is to expect the few rot-speckled apples in the apple barrel to become whole because of the preponderance of sound ones. We believe in continuous, complete separation between the true and the specious physician. Our traditional responsibility for the dissemination of sound scientific treatment for the people and for protection against the insidious influence of the weaker among our own is ever present. If and when the time comes that government through legislation places the cultist on the same legal plane with us, we must strive to maintain the aristocracy of learning and culture. A physical and professional separation as complete as is possible should be established and maintained.

Respectfully submitted.

GEORGE EDWARD FOLLANSBEE, Chairman.
WALTER F. DONALDSON.
JOHN H. O'SHEA.
LLOYD T. NOLAND.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

I. Resolutions of the House of Delegates

1. The House of Delegates at the Cleveland session adopted the following resolution:

Resolved, That it is the opinion of the House of Delegates of the American Medical Association that physicians on the staffs of hospitals approved for intern training by the Council on Medical Education and Hospitals should be limited to members in good standing of their local county medical societies and that the House of Delegates requests the Council on Medical Education and Hospitals to take this under advisement.

The Council has brought this resolution to the attention of all hospitals approved for intern training and it is planned to check staff memberships in connection with all the inspections of hospitals engaged in training interns. In this manner the Council will ascertain to what extent hospitals have complied with the foregoing resolution.

2. In its report at Atlantic City last year the Judicial Council referred to the improved methods of administering the Principles of Medical Ethics. It was stated that while each member of the American Medical Association, whether in hospitals, in universities, in clinics or in private practice, is at all times subject to the ethics of the profession, the hospital, university or clinic as an entity is not and that by concerted action between the Council on Medical Education and Hospitals and the Judicial Council many harmful and obnoxious practices would cease and others, not now presenting any large problem, would be prevented.

For the purpose of carrying out the recommendation of the House of Delegates, the secretary of the Council on Medical Education and Hospitals has appeared before the Judicial Council and the chairman of the Judicial Council has met with the Council on Medical Education and Hospitals and it has been agreed that the latter council, in connection with its regular inspections, will secure such additional information regarding certain phases of hospital practice as may be requested by the Judicial Council.

3. A considerable number of resolutions have been brought before the House of Delegates requesting the Council to stimulate among the medical schools greater interest and greater activity in the teaching of economics as applied to the practice of medicine. In cooperation with the Bureau of Medical Economics, a very considerable amount of material bearing on this subject has been sent to the library of each recognized medical school and a questionnaire has been formulated to determine the place occupied by economics in the medical curriculum. However, personal conferences with deans and others have indicated that in most schools it is difficult to find a member of the faculty, or any one outside the faculty, who is sufficiently familiar with the problems of medical economics to present to the students a satisfactory discussion of this subject. Merely to add extra hours, labeled economics, to the curriculum and to require students to attend dull or perfunctory lectures would serve no useful purpose and it seems to be evident that teachers will have to be specially trained for this purpose before worthwhile courses in economics will be generally available.

II. Activities of the Council

4. (*a*) The survey of medical schools which was undertaken two years ago is, so far as inspections are concerned, nearly completed. Eighty-seven medical schools in the United States and Canada have been visited. The two remaining institutions will be covered before the end of the school year. The Council is now engaged in analyzing and tabulating material that has been obtained, and while there is a great deal of work to be done in the course of preparing a complete report on this survey certain facts are already evident. During the past ten years, owing in part to the increasing number of applicants and in part to financial pressure, some schools have increased their enrolment beyond the numbers to which they are prepared to give adequate instruction. While in certain cases the physical plant may be inadequate and in other cases the teaching staff is insufficient, the most generally observed deficiency is a lack of clinical material or a lack of satisfactory control over the clinical facilities that can be utilized.

In the early years of the Council's supervision of medical education, it was categorically stated that no medical school could be properly conducted that did not have a substantial income apart from students' fees and as a result most of the schools developed other sources of support. Recently, as the result of increasing costs and diminishing incomes, schools are now operating on a budget of which the income is derived solely, or almost solely, from students' fees. Some institutions have even gone further and are contributing substantially from their own income to the general upkeep of the university.

(*b*) In connection with the survey, the Council undertook to visit the schools of osteopathy; but the Associated Colleges of Osteopathy promptly refused to allow representatives of the Council to make any inspection of their institutions. If these schools limited themselves to the teaching of osteopathy, such an attitude might be warranted; but since in many states the osteopaths have demanded or have obtained the unrestricted right to practice medicine, it would seem that the public is entitled to know whether their claim to teach medicine is or is not well founded.

(*c*) To aid in the study of the material obtained in our survey of medical schools and in the formulation of conclusions therefrom, the Council has invited the cooperation of five consultants prominent in the field of medical education who, for the sake of convenience, have been designated the "Blue Print Committee," and who meet from time to time with the Council.

5. (*a*) The annual census of hospitals for 1935 was published in THE JOURNAL of March 7. The cordial cooperation offered by the hospitals is indicated by the fact that reports were received from 96 per cent of all hospitals, representing 99 per cent of the entire bed capacity. The list of registered hospitals contains 6,246 names, a decrease of 88 over 1934. The number of beds, however, has increased by 28,249, so that the total is 1,076,350. Admissions during 1935 were 7,709,942, an increase of 562,526 over 1934. The daily average number of patients was 876,689, an increase from the preceding year of 46,591.

(*b*) During 1935, the Council's staff of hospital examiners made the following visits of inspection:

Hospitals

For internship approval		197
For residency approval		31
Tuberculosis sanatoriums		91
Small hospitals for registration		163
Under 25 beds	130	
Over 25 beds	33	
		482

Technical Schools

Schools for laboratory technic	65
Schools for physical therapy technicians	7
Schools for occupational therapy technicians	5
	77
Total inspections	559

(*c*) In the last eight years about 3,000 different hospitals have been visited one or more times by the Council's inspectors. During 1931 and 1932 more than 600 mental hospitals were visited. In 1933, 1934 and 1935 nearly 600 hospitals for the treatment of tuberculosis were examined. In the past four years, at the suggestion of the House of Delegates, our examiners have also visited over 600 small hospitals. These last are a part of a group of more than 2,000 hospitals on the Register which have never been personally visited either by the Council or by any other organization.

6. (*a*) As reported last year, the examination of schools of occupational therapy has been completed; but, since the educational standards adopted by the House of Delegates are to be effective not later than Jan. 1, 1939, it seemed best to defer the annual classification of schools until that time. In the meanwhile, the St. Louis School of Occupational Therapy, the Philadelphia School of Occupational Therapy, Milwaukee-Downer College, and the University of Toronto School of Occupational Therapy have already satisfied the requirements. Other schools are in process of meeting them.

(*b*) The visiting of schools for the training of technicians in physical therapy has been completed and an outline of standards for such institutions will be submitted to the House of Delegates for its approval at the current session.

(*c*) The survey of schools for the training of technicians in clinical laboratories is very nearly completed. One hundred and eighty-seven schools have been inspected and fifteen remain. As soon as appropriate standards for these schools can be formulated, they also will be submitted to the House of Delegates for its approval.

7. In accordance with the instructions of the House of Delegates formulated at the Milwaukee session, the Council has during the past year expressed its approval of examining boards in the following specialties: dermatology and syphilology, orthopedic surgery, pediatrics, psychiatry and neurology, and radiology. Physicians who have obtained the certificate of these boards will receive a special designation in the forthcoming edition of the American Medical Directory.

8. *Publications.*—(*a*) The Council has contributed during the past year to special numbers of THE JOURNAL as follows:

Educational	Aug. 31, 1935
Clinical pathology	Oct. 26, 1935
Tuberculosis	Dec. 7, 1935
Radiologic	Feb. 22, 1936
Hospital	March 7, 1936
State Board	April 25, 1936

(*b*) A report of the Council's study of hospitals and sanatoriums for the treatment of patients with tuberculosis, prepared by Dr. F. H. Arestad, was published in THE JOURNAL and reprints were widely distributed both in this country and abroad. Favorable comment was received from many sources. Copies of this report were sent to the members of the House of Delegates.

(*c*) The Council has compiled and published a revised edition of the booklet entitled "Approved Colleges of Arts and Sciences and Junior Colleges." This pamphlet, although it contains only information which is also published by the Office of Education in the United States Department of the Interior at Washington, is greatly in demand because the material is so much more conveniently arranged.

(*d*) As customary, the Council has been responsible for supplying to the Directory Department revised information concerning hospitals, medical schools and examining boards.

(*e*) The booklet "Laws and Board Rulings Regulating the Practice of Medicine in the United States of America and Abroad," last revised in 1933, has been discontinued in its present form. The abstracting of state laws can perhaps be more efficiently carried out by the Bureau of Legal Medicine, and the records of state medical boards are for the most part so inadequately reported to us that it would not seem to be worth while to publish information which we know to be incomplete and in some cases unreliable.

9. The Thirty-Second Annual Congress on Medical Education, Medical Licensure and Hospitals was held at the Palmer House in Chicago, Feb. 17 and 18, 1936. Included in the program were a paper on "The Accrediting of Higher Institutions" by Dr. George F. Zook, president of the American Council on Education; a symposium on the "Scope and Objectives of the Undergraduate Teaching of Obstetrics," and a group of papers dealing with the social responsibilities of the physician. The attendance at the congress cannot be estimated but there were 320 who registered as delegates. Seventy-three medical schools and twenty-two state licensing boards were officially represented.

III. RECOMMENDATIONS

10. Now that the survey of undergraduate medical schools is nearly complete, the Council has voted to undertake a survey of the graduate training of physicians. In this field there is naturally much more variety of aim and method than in undergraduate teaching. Roughly, graduate courses may be regarded as designed either for the training of specialists or for the improvement of practitioners. Under the former heading, opportunities may be further subdivided consisting of systematically arranged courses, including especially courses in those fundamental sciences which are prerequisite for satisfactory development in a specialty, and apprenticeships in which the student obtains actual clinical experience by assuming greater responsibilities in connection with the care of patients in a hospital, a dispensary or a physician's office. The second objective, namely, the improvement of practitioners, is achieved by means of instruction at many different levels ranging all the way from attendance at meetings of the county society or a hospital staff to a prolonged course of study in some graduate or postgraduate institution. This sort of instruction can also conveniently be classified under two main headings: first, those courses of instruction offered by recognized institutions in large centers of population with abundance of clinical material and, second, what may be called extension courses, in which the instruction is carried to the physician in or near his own home by selected teachers operating under the direction of the educational committee of the state society or some similar organization.

11. The work imposed on the Council in connection with the visiting of hospitals for the purpose of appraising the training of interns and residents in connection with the educational requirements of an increasing number of special examining boards, in the visiting of small hospitals as requested by the House of Delegates, and in the supervision of schools for the training of technicians for occupational therapy, physical therapy and laboratory diagnosis, has grown so rapidly in recent years that the present staff of the Council cannot satisfactorily discharge all the responsibilities laid on it. It would seem to be necessary, therefore, to add to our force an additional hospital inspector.

Respectfully submitted.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS.
RAY LYMAN WILBUR, Chairman.
MERRITTE W. IRELAND.
CHARLES E. HUMISTON.
FREDERIC A. WASHBURN.
J. H. MUSSER.
FRED MOORE.
REGINALD FITZ.
WILLIAM D. CUTTER, Secretary.

REPORT OF THE COUNCIL ON SCIENTIFIC ASSEMBLY

To the Members of the House of Delegates of the American Medical Association:

The work of the Council on Scientific Assembly during the past year has proceeded along the usual lines, and all matters that have come within its province have received official attention.

The regular annual Conference of Section Secretaries with the Council on Scientific Assembly was held in Chicago, Dec. 16, 1935, and the usual arrangements for the official program of the annual session were made. A Session on Tuberculosis will be held in the Section on Miscellaneous Topics.

A splendid program has been prepared for the General Scientific Meetings to be held on Monday and Tuesday, May 11 and 12. Two distinguished foreign physicians, Lord Horder of London and Dr. Amaral of São Paulo, Brazil, will participate in this program as invited guests.

At the Atlantic City session in 1935 a resolution introduced by Dr. J. Richard Kevin, delegate from New York, proposing that a Committee on Medicolegal Blood Grouping Tests be organized, was referred to this council. A committee has been appointed to study the general subject involved and, in due time, will submit a report to the House of Delegates.

Respectfully submitted.

IRVIN ABELL, Chairman.
CYRUS C. STURGIS.
FRANK H. LAHEY.
JAMES E. PAULLIN.
ALFRED A. WALKER.
J. TATE MASON, President-Elect. } Ex officio.
MORRIS FISHBEIN, Editor, THE JOURNAL. } Ex officio.
OLIN WEST, Secretary. } Ex officio.

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SATURDAY, APRIL 4, 1936

ETIOLOGY OF AMYLOID DISEASE

The etiologic mechanism in amyloid disease is not yet entirely clear; several theories have been proposed. Among the more important of these, according to Eklund and Reimann,[1] are (*a*) a general disturbance of protein metabolism, (*b*) an antigen-antibody union and precipitation, (*c*) an absorption of protein, (*d*) a disturbance or abnormality of the reticulo-endothelial system, (*e*) hyperglobulinemia, and (*f*) hyperproteinemia and disturbance of the reticulo-endothelial system. The first theory has received experimental support from several sources and relatively recently in the work of Grayzel and his co-workers.[2] Amyloidosis was produced in albino mice by subcutaneous or intramuscular injections of a 5 per cent aqueous suspension of sodium caseinate. Comparative studies indicated that a well balanced, thoroughly adequate diet retarded the production of amyloidosis. The investigators concluded, therefore, that amyloidosis is probably the result of an endogenous protein metabolic disturbance. When the rate of formation of these catabolic products exceeds the ability of the tissues to dispose of them, amyloid appears. The theory of antigen-antibody union has been probably the most popular one in Germany. Thus Letterer,[3] who has extensively reviewed the subject and carried out many experiments, believes that the antigen-antibody precipitation occurs within the organ tissue and that the antigen is a homogeneous fused protein. Stoeber,[4] on the basis of clinical observations, finds the histologic relations between amyloidosis and the condition of the reticulo-endothelial system and stellate Kupffer's cells in the liver especially striking. This relationship suggests, he believes, some as yet unknown abnormality of the reticulo-endothelial system as a factor of etiologic significance.

Eklund and Reimann have continued to favor the hyperglobulinemia theory. They investigated the problem in rabbits observed over long periods. After the blood protein level had been determined in five rabbits, each animal was given an intramuscular injection of 5 cc. of a 10 per cent solution of sodium caseinate three times a week. Injections were continued until shortly before death. Two rabbits were kept as controls in similar cages and were given similar food. The protein content of the plasma was measured weekly during the first four months and then twice a month. The albumin and globulin values of the blood were determined by the method of Medes and the fibrinogen value by the method of Cullen and Van Slyke. Necropsy was performed immediately after death in each case, and sections of tissue were tested with aqueous solution of iodine and double-normal sulfuric acid, congo red and methyl violet. The rabbits were observed until death from amyloidosis occurred. It was not possible to determine when amyloid was first deposited. The changes in the blood protein content observed in each of the rabbits were remarkably uniform. The globulin content in each case rose above the normal level approximately two weeks after the first injection and continued to rise for from four to six weeks thereafter, at which time the amount was from two to four times the normal value. It remained at those high levels during the first four or five months and then declined but remained above normal until death occurred. The albumin content remained constant though slightly below normal for four or five months and then dropped rapidly until half or less of the initial amount remained. The total protein content rose during the second week, reached its highest level in from four to six weeks, and remained high for four months or more.

Each of the five rabbits studied died with signs and symptoms of uremia caused by extensive amyloidosis of the kidneys. Histologically there was almost complete replacement of the glomerular tufts by a homogeneous substance which gave the characteristic amyloid reaction with methyl violet and Mallory's trichrome stain. Within this substance were a few spindle shaped, compressed remnants of nuclei. The capillary spaces were usually obliterated. The stroma between the glomeruli and the persisting tubules, however, failed to react like amyloid substance.

These experiments showed that constant hyperglobulinemia induced by repeated injections of sodium caseinate preceded the development of amyloid disease in each of five rabbits. The authors believe that these observations lend considerable support to the theory that chronic hyperglobulinemia is an important factor in the development of amyloidosis of the secondary type. If the amount is not too great or too persistent, the excess can be disposed of successfully. Furthermore, experimental studies and clinical observations show beyond doubt that the process is reversible. It is misleading, Eklund and Reimann believe, to attempt to correlate the changes in the blood protein level found

1. Eklund, C. M., and Reimann, H. A.: The Etiology of Amyloid Disease, Arch. Path. **21**: 1 (Jan.) 1936.
2. Grayzel, H. G.; Jacobi, M.; Warshall, H. B.; Bogin, M., and Bolker, H.: Amyloidosis, Arch. Path. **17**: 50 (Jan.) 1934.
3. Letterer, Erich: Neue Untersuchungen über die Entstehung des Amyloids, Virchows Arch. f. path. Anat. **293**: 34 (July 21) 1934.
4. Stoeber, E.: Betrachtungen über sog. genuine Amyloidose, Deutsches Arch. f. klin. med. **176**: 642 (Aug. 22) 1934.

in advanced amyloidosis with the etiology of the disease. The conditions are different during the incipient period, and the amount of blood protein, especially the globulin, is above normal. In the late stage, when evidence of renal disease is likely to appear, the total protein content is reduced below the normal level because of the marked diminution in albumin.

Although the evidence regarding the etiology of amyloidosis is still conflicting in many respects, the work reported here strongly suggests that chronic hyperglobulinemia is either an etiologic factor or a corollary of amyloidosis itself.

DIETS OF FAMILIES WITH LOW INCOMES

The economic depression with its inevitable detrimental effects on the food supply of many families has renewed interest in studies of the diets of groups with low incomes. Recently attention was directed in these columns [1] to a survey in which a relation was shown to exist between the weights of children of the depression-poor families and their diminished income. A statistical survey of the diets of families with low incomes has been reported.[2] The data were collected in the spring of 1933 in nine localities, including Baltimore, Birmingham, Cleveland, Detroit, New York, Pittsburgh, Syracuse, a cotton mill area in South Carolina, and a coal mining district in West Virginia. At least 100 white families living in the poorer neighborhoods but not in the "slum" districts in each locality were questioned regarding the kinds and quantities of food purchased during a period of one week. Sufficient data were thus collected to give a general indication of the relative consumption of the various foods or food groups, such as milk, meats, bread, cereals, vegetables and fruits. The families were then classified according to their incomes, and the average quantities of the various foods and food groups were computed for families in each income class in each locality.

The data collected not only bring out a number of interesting tendencies in food selection but also show the existence of a distinct relation between the character of the diet and the family income. Regional differences in the dietaries also were apparent. In the families living in the six Northern cities there was a direct relation between the calories provided in the dietaries and the income. Members of families with a weekly income of less than two dollars per capita obtained an average of only 2,470 calories a day, expressed as "adult male units," and approximately one fourth of this group received less than 2,200 calories a day per adult male unit. These values are decidedly less than the 3,000 calories recommended by some authorities as an adequate daily allowance for the moderately active adult male. As might be expected, the caloric content of the diet was particularly inadequate in larger families composed of from five to eight members. As the family income increased there was a steady increase to satisfactory values in the daily caloric content of the diet, families with a weekly income of from three to four dollars per capita receiving an average of 3,180 calories daily. In the Southern communities, however, the decided difference between the caloric value of the diets of the various income groups did not appear. Even in families at the lowest income level, the average caloric value of the diet equaled or exceeded the adequate standard. This apparent inconsistency was attributed to the general use of large quantities of fat meat, cereal foods and syrups in the Southern localities.

One of the most noticeable features of the dietaries in all the communities surveyed was the uniform lack of sufficient amounts of milk, vegetables and fruits, according to current standards, and the consistent overuse of meats and fish, eggs and sugary foods. In the six cities studied, the average supply of milk was one-third less than the minimum suggested requirement and the amounts of fruits and vegetables were no more than just equal to the minimum needs. On the other hand, meat and fish, eggs and sugary foods were used in larger quantities than those recommended for an adequate low cost diet. Such a distorted type of dietary is undoubtedly low in calcium and probably does not contain optimal amounts of certain of the vitamins. A further indication of the inadequacy of the diets of families with low incomes lies in the fact that the incidence of sickness was found to parallel the income of the families investigated.

Surveys of this type call attention to the need for a widespread dissemination of knowledge to the poorer classes regarding a more satisfactory manner of choosing foods in order to insure a more nearly adequate diet at a minimum cost.

CHOLINE AND FAT METABOLISM

The methods available for the study of processes of intermediary metabolism include a wide variety of experimental procedures and materials. One of the most important of these approaches involves the production of a pathologic condition in the normal organism in an effort to infer from the variations that occur what routes the normal metabolic processes probably follow. Frequently, clinical material exists which represents deviations from the normal and thus provides valuable supplementary data for interpretation. As the liver is the chief organ concerned with the metabolism of the three principal types of foodstuffs, experimental or clinical alterations in the liver are usually associated with some aberration of a metabolic process. It has long been of interest, therefore, to study instances of pathologic change occurring in the liver in the patient or produced in the experimental animal.

1. Children of the Depression Poor, Current Comment, J. A. M. A. **105**: 1123 (Oct. 5) 1935.
2. Wiehl, Dorothy G.: Diets of Low-Income Families Survey in 1933, Pub. Health Rep. **51**: 77 (Jan. 24) 1936.

One of the most striking changes occurring in the liver is increase in the content of fat. The signs of failure of liver function are peculiarly prominent in depancreatized animals; taken together with the state of the liver at postmortem examination these indicate a profound disturbance in fat metabolism. These results in the depancreatized dog were early attributed to an impaired assimilation of fat and led to efforts to augment the digestive powers of these animals by the addition of raw pancreas to their diet. This form of medication produced striking increases in the length of the survival periods of these dogs. Following the discovery of insulin by Banting and Best, it was demonstrated that the depancreatized dog, receiving insulin but no raw pancreas or pancreatic enzymes, could be kept alive and well for two years. These observations suggested that the beneficial effect of raw pancreas in the diet of depancreatized dogs does not depend on the content of digestive enzymes in this tissue. It therefore became of interest to establish the identity of the factor that is essential to the life of depancreatized dogs. The variations which they evidenced in fat metabolism and the importance attached to the phospholipids in this metabolism led to an attempt to substitute lecithin for raw pancreas in the diet of the depancreatized dog.[1] The beneficial results obtained were striking; the symptoms exhibited by the animals and the results of necropsy suggested an improvement in liver function. Furthermore, it seemed likely that an investigation of the effect of lecithin on the deposition of fat in the livers of normal animals might be of interest. Experiments of this type conducted by Best and his collaborators in Toronto and by Channon and his group in Liverpool have provided interesting information regarding fat metabolism and suggestive possible relationships to the transformations in the body which involve protein.[2]

It is a relatively simple matter to produce abnormally high concentrations of fat in the liver experimentally by feeding either cholesterol-containing or high-fat diets to the experimental animal. Using this technic as a method of approach, the Toronto investigators were able to demonstrate that the administration of lecithin could prevent the ordinarily observed increase in the amount of liver lipids. Furthermore, a study of the component portions of the lecithin molecule yielded the striking observation that the prevention of fat deposition in rats and dogs was due solely to the choline present in the lecithin. In addition, results have been obtained which demonstrate that choline not only is effective in preventing the accumulation of liver fat but may also exert a "curative" action when added to the diet of animals whose livers have previously been made high in lipids by simple experimental manipulation of diet. This unique and interesting property of choline has been termed by Best the lipotropic action of choline.

The discovery that the choline content of the diet exercises a controlling influence on the amount of fat in the liver has provided the means for many investigations into the subject of fat metabolism. One of the most interesting results obtained from the use of this lipotropic action of choline has been the observation by Best and by Channon that the quantity of protein in the diet has a profound effect on the extent to which the action of choline is manifested. This has led to the demonstration that protein per se has a definite lipotropic action, which differs only superficially from that exhibited by choline. It remains for future investigation to determine whether the ability of the protein in the diet to prevent the accumulation of liver fat is to be attributed to an adhering impurity, either choline or choline-like in nature, or whether this interesting property can be assigned to a constituent of the protein molecule. The development of this chapter of fat metabolism is evidence of sound theoretical reasoning and logical experimental investigation. The subsequent information regarding fat metabolism, and the manifold possible relationships to the transformations of protein in the organism, are awaited with interest.

1. Hershey, J. M., and Soskin, Samuel: Am. J. Physiol. **98**: 74 (Aug.) 1931.

2. The most recent papers in the series are by Best, C. H., and Channon, H. J.: Biochem. J. **29**: 2651 (Dec.) 1935. Beeston, A. W.; Channon, H. J., and Wilkinson, Harry, ibid. **29**: 2659 (Dec.) 1935.

Current Comment

SKIN TESTS

With the increasing use of the skin for the detection of various sensitivities [1] it is important to keep in mind that the reactions elicited in the skin give merely a visible record in part at least of the immunologic past history of the patient and per se do not portray a present illness. A correlation between positive tests and the history and observations in the allergic patient is necessary for an accurate diagnosis. The earlier reports of Rackemann and Simon [2] and recently of Grow and Herman [3] of the observations in so-called normal persons are of interest. Grow and Herman find that about 50 per cent of persons without discernible allergic complaint are positive to one or more substances on intracutaneous testing. The question of variations in technic as well as irritability of reagents is a factor of error which they mention. The possible rôle of fluctuations in nervous, emotional and physiologic activity, as well as the choice of skin area tested, have been shown greatly to affect the reactivity to the tests.[4] Certain

1. Rackemann, F. M.: Clinical Allergy—Asthma and Hay Fever, New York, Macmillan Company, 1931. Coca, A. F.; Walzer, Matthew, and Thommen, A. A.: Asthma and Hay Fever in Theory and Practice, Springfield, Ill., Charles C. Thomas, 1931.

2. Rackemann, F. M., and Simon, F. H.: Technic on Intracutaneous Tests and Results of Routine Tests in Normal Individuals, J. Allergy **6**: 184 (Jan.) 1935.

3. Grow, M. H., and Herman, N. B.: Intracutaneous Tests in Normal Individuals, J. Allergy **7**: 108 (Jan.) 1936.

4. Bowman, Katherine L.: Pertinent Factors Influencing Comparative Skin Tests on the Arm, J. Allergy **7**: 39 (Nov.) 1935. Furstenberg, F. F., and Gay, L. N.: Some Observations on the Effect of Circulation on Skin Reactions, J. Allergy **7**: 101 (Jan.) 1936. Alexander, H. L.; Harter, J. O., and McConnell, F. S.: Observation on the Formation of Wheals: II. Comparison of Wheals Induced by Allergens and by Histamine, Proc. Soc. Exper. Biol. & Med. **27**: 484 (March) 1930.

investigators prefer to read the doubtful reactions (one plus) as positive; others regard the same responses as insignificant. The differences in resulting interpretations frequently leave the management of the patient in a most unsettled state. A few qualified allergists of wide clinical and technical experience make and read skin tests with judicious restraint and thus properly utilize a diagnostic procedure of unquestionable value.[5] However, the indiscriminate use of skin tests for the solution of puzzling clinical problems is apt to lead physician and patient far afield. Present indications are that developments in clinical allergy will lead in two general directions: either many new and heretofore unconsidered substances will be found allergenic or there will be a distinct swing toward nihilism. Evidence of this is seen in the types of research in the field. One seeks to uncover newer or more refined test materials; the other is engaged in studying the fundamental, underlying immunobiologic mechanism. The much discussed and uncertain ground between idiosyncrasy and allergy also is worthy of further investigation. The lack of agreement between workers in allergy is evidence enough that the personal factor in both physician and patient is in each case to be fully evaluated. Whether the skin test is patch, scratch or intracutaneous, the accuracy of our conclusions must rest in the close correlation of symptoms and course with exposure and withdrawal respectively of the substances incriminated by this method of detection.

5. Alexander, H. L.: Interpretation of the Skin Test Used in Allergic Disorders, Journal-Lancet **56**: 131 (March 1) 1936.

Association News

ANNUAL GOLF TOURNAMENT AT KANSAS CITY

The American Medical Golfing Association will hold its twenty-second annual tournament at the Mission Hills and the Kansas City Country Clubs in Kansas City on Monday, May 11.

Thirty-six holes of golf will be played in competition for the seventy trophies and prizes in the nine events. Trophies will be awarded for the Association Championship, thirty-six holes gross, the Will Walter Trophy; the Association Handicap Championship, thirty-six holes net, the Detroit Trophy; the Championship Flight, First Gross, thirty-six holes, the St. Louis Trophy; the Championship Flight, First Net, thirty-six holes, the President's Trophy; the Eighteen Hole Championship, the Golden State Trophy; the Eighteen Hole Handicap Championship, the Ben Thomas Trophy; the Maturity Event, limited to Fellows over 60 years of age, the Minneapolis Trophy; the Oldguard Championship, limited to competition of past presidents, the Wendell Phillips Trophy, and the Kickers' Handicap, the Wisconsin Trophy. Other events and prizes will be announced at the first tee.

MEMBERS IN EVERY STATE OF THE UNION

M. M. Cullom of Nashville, Tenn., is president and W. Albert Cook of Tulsa, Okla., and Walt P. Conaway of Atlantic City, N. J., are vice presidents of the American Medical Golfing Association, which was organized in 1915 by Will Walter, Wendell Phillips and Gene Lewis, and now totals 1,150 members, representing every state in the Union. The living past presidents include Thomas Hubbard of Toledo, Ohio, Fred Bailey of St. Louis, Edward Martin of Media, Pa., Robert Moss of LaGrange, Texas, Charlton Wallace of New York, Will Walter of Chicago and Charlottesville, Va., James Eaves of Oakland, Calif., D. Chester Brown of Danbury, Conn., Samuel Childs of Denver, W. D. Shelden of Rochester, Minn., Walter Schaller of San Francisco, Edwin Zabriskie of New York, Frank A. Kelly of Detroit, John Welsh Croskey of Philadelphia, Homer K. Nicoll of Chicago and Charles Lukens of Toledo.

KANSAS CITY COMMITTEE

The Kansas City Committee is under the general chairmanship of Clarence Capell, Rialto Building, Kansas City, Mo. He will be assisted by E. R. Deweese, Vice Chairman, and L. G. Allen, J. Wallace Beil, C. D. Cantrell, Logan Clendening, C. C. Dennie, Hugh A. Gestring, A. C. Griffith, John S. Knight, T. A. Kyner, A. W. McAlester Jr., Virgil W. McCarty, C. R. McCubbin, C. A. McGuire, C. J. Mullen, Paul J. O'Connell, A. J. Rettenmaier, H. M. Roberts, E. Kip Robinson, C. E. Sanders, J. S. Snider, Albert S. Welch and D. A. Williams.

TWO COURSES

To accommodate comfortably the large entry that is anticipated, the Kansas City Committee has arranged play over two very fine courses, which touch corners: the Mission Hills Country Club and the Kansas City Country Club. Their club houses are only one mile apart and ample transportation between the two has been arranged. Dinner for all players will be served in the Mission Hills Club House.

APPLICATION FOR MEMBERSHIP

All male Fellows of the American Medical Association are eligible and cordially invited to become members of the A. M. G. A. Write the executive secretary, Bill Burns, 2020 Olds Tower, Lansing, Mich., for an application blank. Participants in the A. M. G. A. tournament are required to furnish their home club handicap, signed by the secretary. No handicap over 30 is allowed, except in the Kickers' (Blind Bogey). Only active members of the A. M. G. A. may compete for prizes. No trophy is awarded a Fellow who is absent from the annual dinner.

The twenty-second tournament of the American Medical Golfing Association promises to be a happy affair. The officers anticipate that some two hundred medical golfers from all parts of the United States will play.

MEDICAL TRAP SHOOTERS ASSOCIATION

The American Medical Skeet and Trap Shooters Association has been formed by a group of Kansas City physicians and it is hoped that the organization will be permanent. On the afternoon of May 10 there will be a Skeet and Trap Shoot at Elliott Gun Park.

Trap shoot—fifty sixteen yard targets:

Class A, 94 per cent.
Class B, 89 per cent.
Class C, 84 per cent.

Skeet shoot—fifty targets:

Class A, 21 to 25.
Class B, 17 to 21.
Class C, 16 or below.

A trophy will be given for each class. Our transportation will leave from the Hotel President at 1 o'clock, May 13. Address all correspondence to Dr. A. W. McAlester III, 2003 Bryant Building, Kansas City, Mo., or to Dr. Dar Stofer, Professional Building, Kansas City, Mo.

Bring your shotguns as well as your golf clubs.

RADIO BROADCASTS

The American Medical Association broadcasts over WEAF, the Red network instead of the Blue, as formerly, and certain additional stations of the National Broadcasting Company at 5 p. m. eastern standard time (4 o'clock central standard time, 3 o'clock mountain time, 2 o'clock Pacific time) each Tuesday, presenting a dramatized program with incidental music under the general theme of "Medical Emergencies and How They Are Met." The title of the program is "Your Health." The program is recognizable by a musical salutation through which the voice of the announcer offers the toast "Ladies and gentlemen, your health!" The theme of the program is repeated each

week in the opening announcement, which informs the listener that the same medical knowledge and the same doctors that are mobilized for the meeting of grave medical emergencies are available in every community, day and night, for the promotion of the health of the people. Each program will include a brief talk dealing with the central theme of the individual broadcast.

Red Network.—The stations on the Red network of the National Broadcasting Company are WEAF, WEEI, WTIC, WJAR, WTAG, WCSH, KYW, WFBR, WRC, WGY, WBEN, WCAE, WTAM, WWJ, WMAQ, KSD, WHO, WOW, WDAF.

Pacific Network.—The stations on the Pacific network are KGO, KPO, KFI, KGW, KOMO, KHQ, KFSD, KTAR.

Network programs are broadcast locally or omitted at the discretion of the local station. The lists indicate stations to which programs are available.

The next three programs are as follows:

April 7. Let Your Doctor Decide, R. G. Leland, M.D.
April 14. Summer Camps, Morris Fishbein, M.D.
April 21. Health and the School, Morris Fishbein, M.D.

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Thirty-Second Annual Meeting, held in Chicago, Feb. 17 and 18, 1936

(Continued from page 1099)

DR. MERRITTE W. IRELAND, Washington, D. C., in the Chair

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

FEBRUARY 17—AFTERNOON

The Personal Characteristics of the Teacher

DR. JAMES S. MCLESTER, Birmingham, Ala.: This article will be published in full in the *American Medical Association Bulletin.*

SCOPE AND OBJECTIVES OF THE UNDERGRADUATE TEACHING OF OBSTETRICS

The Training of Medical Students in Obstetrics

DR. GEORGE W. KOSMAK, New York: This article will be published in full in THE JOURNAL.

Undergraduate Education in Obstetrics

DR. CHARLES B. REED, Chicago: The sentimentalists are maintaining that maternity cases are not getting adequate medical care and that the American mortality and morbidity rate is much higher than in other countries. The charge has not been substantiated. Nevertheless the social theorists and salaried altruists use it freely as an argument for the passage of paternalistic and unconstitutional laws together with a prodigal expenditure of public money. The following statistics, however, from the League of Nations, are illuminating:

Mortality and Morbidity, 1933

	All Deaths Per 1,000 Population	Infant Deaths Per 1,000 Births	Diphtheria per 100,000 Population	
			Deaths	Cases
Government controlled				
Germany	11.2	76	5.6	114
England and Wales	12.3	63	6.3	117
Scotland	....	81	7.2	180
No government control				
United states	10.7	59	3.9	39
Illinois	10.5	49	1.7	22

The accusation that maternity cases are not competently managed is a more serious statement, which reflects on the teachers in the schools of medicine, the curriculums and the character of the teaching. There is some reason to believe that not all colleges offer modern courses of obstetric training. That such a condition does exist is evident from the numerous articles that have appeared in the literature. In 1931 Adair presented a comprehensive study on education in obstetrics. In the same year and as a part of the same White House conference on maternal care, Findley reported an elaborate scheme for the teaching of undergraduates. So far as can be learned, nothing practical has been done during the intervening years to carry out the valuable suggestions submitted by either man. I propose to suggest a method whereby the quality of undergraduate work can be bettered. This method is a well tested procedure which provides for definite improvement in the care of maternity cases by the general practitioner and facilitates at the same time the growth of specialism. The plan is not new and it can be put in operation anywhere at relatively small expense by a competent faculty. A textbook is essential to success. The books in general use are too large and too verbose. No textbook for the use of students should require more than 500 or 600 pages, if carefully prepared. Several members of the obstetric department at Northwestern University Medical School have made a skeletonized abstract of the modern doctrine in a booklet of about 110,000 words. It avoids futile discussions that are incomprehensible to an undergraduate. This text has been used for years with success. There is no formal lecture, only a quiz. The teacher constantly holds before the students a vision of the high importance of the obstetric art without confusing them with a mass of verbiage and conflicting theories which no one has resolved.

The student is introduced to obstetrics in the last quarter of the second year or whenever the laboratory and basic science courses have terminated. The class should be divided into sections of about forty men and put in charge of a young and enthusiastic member of the department. They learn the textbook thoroughly and recite from it in class. Each section should have at least twenty hours a quarter of this work during each of the four quarters, or eighty hours in all. The student is drilled and redrilled on this fundamental material in a give and take conference.

Late in the junior or early in the senior year the student is assigned to the manikin. He must now visualize the actual mechanics of labor and learn to meet the complications that arise. This degree of skill can be obtained only by familiarity with the instruments employed. The student must feel the instrument in his hands and apply it to the tissues in accordance with its law. It is by practice and only by assiduous practice that he can secure that excellence of judgment, that fine adjustment between the idea and the action which constitutes technic. Practice on the manikin then is, in my opinion, the first and most vital step toward technical efficiency for the student.

Throughout as many quarters as necessary, the class should again be divided into sections of thirty or forty men, who are allotted twelve or more periods of two hours each on the manikin, in which a dead fetus is used. The first hour is spent in listening to a lecture by a senior man in the department, who takes up a given complication of labor, describes the methods of diagnosis, the impending difficulties and the reasons for giving aid, together with the indications and conditions that determine the choice of intervention. At the proper moment he illustrates the technic of the operation by slow and careful maneuvers on the manikin and gives the reasons for each act and its difficulties. When the demonstration is finished, the lecturer assigns the next topic for study from the manikin textbook. The class is again subdivided into groups of five or six and each group takes it place at a manikin with an experienced instructor from the junior faculty in charge. The student is now required to perform the operation he has just witnessed and repeat it under criticism until every detail of the procedure is thoroughly understood.

In this course the student is trained in the use of forceps for all the appropriate emergencies. The whole hour is spent by the section in practice on each single maneuver. All the malpositions of the head are taken up in turn for study, comparison and differentiation. The management of breech cases comes next. In due course versions are considered and prolapse of the cord and extremities until the entire list has been covered. The student repeats each operation until he can perform it with reasonable dexterity. In every case the student examines the concealed fetus and makes a diagnosis of presentation and position from the distinctive anatomic features, which he recognizes by touch. Then having visualized the problem and decided on the appropriate treatment he is prepared to teach his hands and brain to cooperate. The obstetric course as outlined occu-

pies about 100 hours and, since the hours are spread over a period of two years, it might be advisable to expand the present limitations.

Meanwhile, time for the student who elects it is provided in the maternity clinic, where minor technical maneuvers are practiced so that the principles of modern antepartum care may be regularly inculcated. The student is next introduced to actual case work either in the hospital or by domiciliary practice in the outpatient department, under supervision.

The manikin course must be regarded as the most vital part of the obstetric education for the undergraduate, while its stimulating reaction on the older departmental attendants is one of its most gratifying features.

No school should be entitled to a class A rating which does not offer a complete and well thought out course in manikin conferences like the one described. However eminent a lecturer may be, he cannot convey to students a clear understanding of obstetric problems without more patience and determination than he is apt to give unless he uses the manikin. The processes, which are wholly mechanical, are too complex for easy visualization by an uninitiated mind. The problem in undergraduate instruction is to grind in the fundamentals and let the knowledge broaden and increase as the mind grows with experience.

I studied the catalogues of fifty-seven of our best schools and sent out a questionnaire. Among these fifty-seven schools, only thirteen devoted ten or more hours to manikin instruction. Among twenty-nine others, thirteen did not mention the subject in their catalogues, while in sixteen the manikin was used only for casual illustration by the lecturer. The students had no access to it. From fifteen colleges no information was obtainable. The only deduction from this survey is that manikin teaching is not provided in about 75 per cent of our schools. This omission is not altogether creditable to an obstetric department. Until the condition is corrected, medical men will not be able successfully to confute the imputations that our maternity cases do not get adequate care.

The Public Health Aspect of the Teaching of Obstetrics in Undergraduate Medical Schools

DR. ROBERT H. RILEY, Baltimore: This article will be published in full in THE JOURNAL.

Undergraduate Obstetric Education

DR. FRED L. ADAIR, Chicago: This article will be published in full in THE JOURNAL.

DISCUSSION ON SCOPE AND OBJECTIVES OF THE UNDERGRADUATE TEACHING OF OBSTETRICS

DR. PAUL TITUS, Pittsburgh: The obstetric education of medical students and young doctors seems to be steadily improving even though it can stand infinitely more improvement. The question frequently propounded is "When should the teaching of obstetrics to medical students be begun?" It cannot begin too early. Anatomy and embryology, physiology and physiologic chemistry, bacteriology and pathology would be intensified in their interest to students if the multitude of ways in which they apply to obstetrics could be pointed out in the preclinical years. I should like to ask how often an obstetrician is requested to discuss the female bony pelvis before a first year class in anatomy or has an opportunity to describe to first or second year students the effects of bacterial contamination during labor and delivery. Abnormalities demonstrated on the manikin properly supplement classroom and textbook instruction in the last two years, but a reasonable amount of clinical work with frequent clinical conferences should dominate the fourth year. Obstetrics and gynecology should not be divorced in teaching. The two are inseparable, and there is a trend toward a combination of these chairs in schools of medicine. The intern year should be universally compulsory before a license is given to practice medicine. The American Board of Obstetrics and Gynecology, of which I have the honor to be secretary, has just completed a survey of graduate training facilities in our specialty in the hospitals of this country. I regret to say that the planned opportunities for clinical training toward outright specialization are much greater than those for the general hospital practitioner. The unfounded charge made by social workers and popular writers that the maternal mortality and morbidity rates are much higher in America than elsewhere in the world is grossly inaccurate for the reason that vital statistics of the various countries of the world have no common denominator by which they can be compared. If we in the United States include in our maternal mortality rates, as some states do, women who die from illegal abortions, we are being more honest, statistically, than certain countries which classify as a puerperal death only women dying after a "live-birth," and live-births as including only babies that live long enough to be baptized. The medical ability of our doctors will be useless if women remain so indifferent that they fail to seek antepartum care. Rothert's fifteen-state survey showed that 54 per cent of the women dying from childbirth causes in a given period had had little or no antepartum medical care. There are three hopeful facts in what is admittedly a high death rate from maternal causes. The first is that constant propaganda is being carried on to teach women and physicians the value of antepartum care. The second is that puerperal death rates are slowly but steadily declining in this country, according to statistics of the Metropolitan Life Insurance Company. The third evidence of progress is that symposiums such as this are being presented to audiences deeply concerned with improvement in education in obstetrics.

DR. W. S. LEATHERS, Nashville, Tenn.: The maternal mortality rate of this country has not appreciably declined during the past decade. Each year more than 2,000,000 mothers in the United States reach the parturition period, and approximately 13,000 of them die during childbirth. Furthermore, during the past year about 70,000 infants died during the first month of life, which is 58.2 per cent of the total mortality of this age group. Probably 75 per cent of this mortality could be prevented. The neonatal mortality is greatly influenced by the kind of medical service afforded during delivery. It is estimated that 40 per cent of the maternal mortality is due to puerperal infections and 27 per cent to toxemias. Other causes are accidents of pregnancy and labor, a lack of skill, inadequate antepartum care, a lack of aseptic obstetric practice, interference with normal labor, and unnecessary cesarean sections. Midwifery constitutes a serious problem, particularly in the Southern states and among the foreign element in the larger cities. In a few Southern states about 50 per cent of the cases of confinement are attended by midwives who are ignorant and untrained for such service. These facts emphasize the necessity of devoting more attention to the teaching of obstetrics to undergraduate medical students. Approximately 44 per cent of the people of the United States live in rural areas, where mothers must depend largely on the general practitioner for obstetric service. The scarcity of practitioners of medicine in many rural areas and the distances that have to be traveled to interview the doctor frequently preclude the possibility of obtaining adequate antepartum and postpartum supervision. Even though adequate instruction in obstetrics is provided for undergraduate medical students, the problems of rural practice make it difficult to provide antepartum and postpartum care without the cooperation of public health agencies. Indeed, this is fundamental. One of the most encouraging trends at this time is the establishment of full time county and district health services. In 1930 there were 3,075 counties and of this number there were 2,675 in states which now have one or more full time county, township or district health departments. This development is of the greatest importance in attaining the objectives in obstetric practice. At Vanderbilt the fourth year class is divided into groups which visit in rotation two full time county health departments that are well organized and in which antepartum and postpartum care are provided efficiently. All students spend two afternoons discussing this and other phases of the local health program. If some such procedure should be followed in the instruction of undergraduate medical students it would serve as a means of enlisting the continued support and active cooperation of practitioners in the future in this service. Obviously, adequate consideration should be given to obstetrics in the curriculum for undergraduate students. The basic requirement should be an improvement in the quality of instruction in the outpatient service and in the ward, supplemented by attendance at twelve or more home deliveries if possible, under the supervision of a member of the resident

staff. Each student should also be given an understanding of the public health aspects of obstetric practice and the relation that should be maintained by the practitioner and the local health service. There is also need for more appreciation on the part of the public and in general the medical profession concerning the requirements in modern obstetric service.

DR. E. D. PLASS, Iowa City: Antepartum care has been in operation more or less extensively in this country for approximately a quarter of a century. During that time there has at least been no reduction in the maternal mortality. Those who are hypercritical might assume from this that antepartum care cannot save lives. Those of us who are concerned with obstetrics believe that that is a false assumption and look for an explanation in the increase in operative obstetrics. Apparently, the harm of the latter balances the good of the former. It is curious that the public thinks of the recent graduate in medicine as being perfectly competent to handle any obstetric case. The individual who would not allow a recent graduate to remove her gallbladder or appendix is content to subject herself to obstetric operation by a recently graduated physician. If we face those propositions together, it seems that we arrive at two alternatives: One, that we should prepare our medical graduates to handle obstetric emergencies and to do obstetric operations after the fashion of the more experienced, or that we should educate the lay public to the dangers of obstetric operations and to the necessity of especially trained operators. If we cannot provide what has been described here as adequate obstetric training for our students, we certainly cannot provide this more advanced training which would give a proficiency in operative technic. I resent the idea that these problems of maternal mortality go back directly to the teachers of obstetrics. I believe that, before we condemn those teachers too severely, we should think that the woman herself has a considerable burden to bear, and until we educate the public to these dangers we shall not have an improvement in our maternal mortality statistics.

DR. GEORGE W. KOSMAK, New York: I have little to add except possibly to controvert the idea that I assumed that a greater practical experience of the medical student with patients, such as I have suggested in this increased outdoor service, would fit the young graduate to perform obstetric operations. I think it would have the exactly opposite effect. I think that a student who is made responsible, under supervision, of course, for the adequate delivery in an obstetric case becomes more duly impressed with the fact that labor is a physiologic process and that his main duty is to watch it and to see that it is carried out properly rather than to think of short cuts for delivery. It is these short cuts for delivery that have done so much to increase our maternal mortality rates. I tried to show that, as a basis for a change in our teaching, we would have to take into consideration the increased operative incidence in obstetric deliveries which seem so prevalent in this country. Does that increase in operative deliveries mean that our women are less able by their natural forces to bring to an end this process of labor? I hardly think that is an explanation. I think that our women are just as competent as the women of other countries to do this. They are no worse off than these women with whom they are compared, so that something else must enter into the picture, and I think that something else is this great desire on the part of improperly and insufficiently trained medical men to devise short cuts in obstetric deliveries which are not really called for.

FEBRUARY 17—EVENING

THE FEDERATION OF STATE MEDICAL BOARDS

The Responsibility of a University in Medical Training

EUGENE A. GILMORE, LL.B., Iowa City: The standardization activities of the American Medical Association, the Federation of State Medical Boards and the Association of American Medical Schools have been of invaluable service in the elimination of unfit and incompetent schools and practitioners. Moreover, the public has traveled along with the standardization program and has supported it, notwithstanding the vigorous dissent of certain minorities and despite misgivings that the program was tending to place needed medical care beyond the reach of the masses. Standardization cannot run too far ahead of prevailing sentiment. Current discussion affords evidence of growing resentment against high medical costs and of the beginnings of various movements to establish socialized, syndicated or collective devices to circumvent difficult access to what the medical profession has taught the people to believe is very desirable. The solution does not lie in abandoning or lowering the standards or withdrawing the emphasis but rather in an educational program designed to create in the people an appreciation of the value of the standards and their importance to the public welfare and, more important, in impressing on the profession itself a keener sense of its social obligations.

Without disparaging but, on the contrary, praising those who have worked in the interest of higher standards for medical education and practice for the public good, one must recognize that the guild motive of monopoly has been in the minds of some of the most ardent advocates of high standards. Evidence of this is especially apparent in connection with the technic used for the selected lists of medical specialists in various fields. There is much talk about an excess of physicians. It is urged that a formula must be found which will tell how many doctors are needed for a certain number of people, and that only that number should be educated and licensed. Rather, more and better doctors are needed, better in every sense: better in technical knowledge, skill and training, better in personality and character, better in general education, better in appreciation of the social implications of the healing arts and their relation to other instrumentalities of general welfare. What constitutes an excess? Excess is purely a relative term. It varies with the environment, with the economic condition of the people, with the scope and intensity of their appreciations, and with their educational and cultural development. Who would have predicted twenty-five years ago that the people of the United States would have the capacity to use 30,000,000 automobiles or 15,000,000 radios? The cosmetic industry and the beauty parlor came from an aroused interest in personal appearance. This was one activity that flourished and expanded even in the darkest days of the depression. Formal education is another one. Theoretically there is a point of saturation for everything. Too much reliance, however, should not be placed on artificial formulas to determine the scope of the demand and what constitutes an excess. In our laudable pursuit of standards, we are prone to accept such artificial formulas, to resort to numbers and formal tests as a basis of selection, to assume that the community's capacity to consume has been reached and to assume that mere quantity necessarily results in deterioration of quality. What all professions need is to become more conscious and confident of their own potentialities of growth and development. They need to get a better historical perspective of organized society and a more adequate appreciation of the potentialities of a people growing in intelligence and wealth to use skilled services. For the time being and for the prevailing type of doctor, we may have too many as society is now organized and as scientific development now stands. But science, art and civilization are not static.

The development of this historical perspective is the chief responsibility of the university in medical training. Its realization will come through a broader education, both in the premedical and in the medical periods. It must likewise train men adequately for the practice of the art of medicine. Here it may let the vocational objective predominate, but the pursuit of a vocational end can be made in a liberal atmosphere. There is a third function which the university should assume, and that is the orientation of the prospective physician in a large and cultural general education which will enable him to appreciate the possibilities of his own profession and also to appreciate the social implications and responsibilities of his profession. Such orientation can be made by the liberalization of the present premedical and medical courses. Its more perfect attainment will come, however, when the technical medical course rests on the general education represented in the curriculum of a college course in liberal arts. If the university is to be charged with a responsibility for medical training, it might insist that the present medical curriculum proceeds too much on the

assumption that professional education is a mere process of acquiring information. The result of this assumption is a tendency to load programs of professional education with a maximum of informational topics which it is felt a physican should know. This attempt to teach all things to all men represents an unwarranted faith in mere information. It overlooks what should be continually kept in mind in any program of sound education; namely, that truly educated men can be trusted to learn some things for themselves.

The Art of Medicine

DR. IRVIN D. METZGER, Pittsburgh: The former preceptor plan gave the prospective medical student an insight into the workings of the art in medicine. His ambitions to enter the profession then were either frustrated and his efforts diverted into more suitable lines of endeavor, or they were enhanced so as to place before the student an envisaged challenge which pictured a needy patient at every stage of his subsequent scientific development. Now students are shunted from the secondary to the professional schools and on to the verge of graduation before they sense the meaning of medical practice. Attempts are made through required internship, as a fifth year of medical training, to make amends for the dearth of clinical experience. In the internship an opportunity is given to develop a sense of responsibility not offered by the medical school. If the intern is held responsible for the condition of patients in the absence of his chief, he gets a feeling of what it means to have the lives of helpless people hanging trustfully on his judgment and conscience. He thus may grow in the grace and charm and wisdom of a real physician. Unfortunately, many medical minds are so surfeited with hard medical facts that they can scarcely be induced to mellow into that plastic mentality which can evaluate the clinical condition of the patient, which can elicit the subtle factors which underlie functional aberrations and which can sanely apply their medical knowledge to the needs of their patients.

Medical artistry cannot be acquired through abstract rationalization, such as is followed in the acquisition of medical knowledge. It must be attained by experience. An encyclopedic knowledge of medicine not only fails in itself to encompass the needs of adequate practice but may positively hinder the prospective doctor in attaining even a mediocre measure of success. Medical knowledge, when logically acquired, is indispensable to professional perfection but it must be only the stairway on which professional striving mounts into artistic professional realism.

The art of medicine requires the physician to enter into the lives of his patients. Not only must he know what are the variable general trends in human nature but he must be able to individualize the ones most dominant in the life of each. An adequate history of a patient involves not only the physical abnormalities of the past but also salient factors in the mobilized mental status that now exists. The ability to comprehend the social and environmental factors that enthrall the patient may open the gateway which leads to the restitution of a healthful morale. The artist in medicine discerns the purports of life. He who sees in his patient just another case that is suffering from a conventional disease fails as a physician even though he may cure. This businesslike attitude of many recent physicians savors strongly of exploitation. Its recognition by social workers and politicians urges them to call for medical regulation by the state. If practitioners of medicine made it less a business and more a mission of mercy, their plea for a maintenance of the sacred relations between physician and patient would not seem so much of a mockery. We have scarcely touched this most vital factor in the development of a practical physician. Perfection in fact finding and in scientific technic has been our aim so that we have lost sight of the real goal—the production of a creative personality with a stalwart character. The time is not far distant when administrators of the medical laws will be less concerned about the scientific knowledge which candidates possess but much more about the mental, the moral and the social adaptability to the profession which the candidates for licensure possess.

All recognized medical schools furnish ample scientific training to assure reasonable service to the sick. Why should we spend more or less futile efforts in further assuring ourselves in this matter? Relatively few schools, even in these days of better pedagogic instruction in medical schools, fathom intimately the deeper factors of personality in the individual student. Many medical schools fail to take note even of the physical condition of its students; what may we expect in respect to the more subtle mental trends? It seems to me that any licensure granted to a candidate should be conditional. If a license when granted should be limited to a period of some five years, after which a renewal for permanence would be required by the state board, a means of control would be available. Exploiters could be eliminated before they became socially grounded. Quasiethical nuisances could be curbed before they brought reproach on the entire profession. Amateur specialists could be halted before they demoralized the faith of the community in the integrity of the profession. Bunglers in practice would be offered an opportunity to seek a more suitable vocation. The problems facing us may be variable but in essence are similar. Wholesome policies for one state are helpful in every other. Cooperation with medical organizations renders a mutual service, and must always be encouraged by our boards. Let us demand of our candidates not less factual knowledge in the science of medicine but more effectively trained minds in its application. Then we may hopefully expect the evolution of many masters in clinical medicine.

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Personal.—Mr. William A. Byrne has resigned as special agent of the state board of medical examiners, after several years' service, effective February 12.——Dr. Wesley W. Beckett, Los Angeles, has retired as medical director of the Pacific Mutual Life Insurance Company, after thirty years' service; he has been succeeded by Dr. Linford H. Lee, assistant medical director. Dr. Beckett becomes medical director emeritus.

Japanese Night at Medical Club.—The International Medical Club sponsored a Japanese night at its meeting, March 27, in Los Angeles. Guests of honor were Dr. Harlan Shoemaker, president of the Los Angeles County Medical Association; Hon. Tomokaya Hori, consul for the Japanese government; Dr. Daishiro Kuroiwa, president of the Japanese Medical Association, and Mr. Congoro Nakamura, president of the Japanese Chamber of Commerce.

Society News.—Dr. Arthur L. Bloomfield, San Francisco, discussed "Clinical Aspects of Streptococcus Infection" before the Palo Alto Medical Society, February 24.——Dr. Archibald A. Alexander, Oakland, discussed lead poisoning before the Contra Costa County Medical Society, February 11.——At a recent meeting of the Monterey County Medical Society in Pacific Grove, Dr. Edwin F. Kehr, Carmel, spoke on "Hypoglycemia and Hyperinsulinism."——Speakers before the San Bernardino County Medical Society recently in San Bernardino included Dr. Walter F. Pritchard, San Bernardino, on "Urologic Complications of Pregnancy."——Dr. Platt W. Covington, Salt Lake City, addressed the San Joaquin County Medical Society in Stockton, February 6, on "Research on Influenza," and Dr. Emmett Rixford, San Francisco, "Industrial Accidents."

DISTRICT OF COLUMBIA

Rockefeller Grant to Howard University.—Howard University School of Medicine, Washington, has received a grant of $100,000 from the Rockefeller Foundation, to be used over a period of five years toward the developments of the departments of medicine and surgery.

University News.—Dr. Charles O. McCormick, Indianapolis, gave a lecture at Georgetown University School of Medicine, February 28, on "Analgesia in Labor." A course in medical social economics has been added to the curriculum of the senior year. Lectures on the various aspects of the subject are given by different authorities. Present lecturers are

Drs. Arthur C. Christie, Oscar B. Hunter, Henry C. Macatee, George C. Ruhland, J. Russell Verbrycke Jr., Wallace M. Yater and Mr. Ross Garrett.

Medical Bills in Congress.—H. R. 12035, introduced (by request) by Representative Norton, New Jersey, proposes to provide for the treatment and care of persons addicted to the use of intoxicating liquors. The bill provides for an appropriation of $200,000 to erect buildings to house and treat addicts and provides that any person who has been convicted on charges of drunkenness or intoxication three or more times within the year immediately prior to the last conviction shall be deemed to be addicted to the use of intoxicating liquor. H. R. 12036, introduced by Representative Scott, California, proposes to provide for the establishment, in the District of Columbia, of a system of social insurance, by the enactment of a "Workers' Social Insurance Act."

FLORIDA

Society News.—Dr. James S. McLester, Birmingham, Ala., President, American Medical Association, addressed the Hillsborough County Medical Society in Tampa, February 24.—— A joint meeting of the Dade and Broward County Medical societies was addressed in Miami Beach, March 16, by Drs. William V. P. Garretson on "The Psyche in Relation to Physical Symptoms"; John F. Erdmann, "Tumors of the Uterus"; Joseph F. McCarthy, "The Prostate and Adnexa Considered from the Standpoint of Obstruction as a Potential Focus of Infection and of Other Constitutional Manifestations"; Andrew A. Eggston, "Newer Application of Clinical Pathology to Diagnosis," and Joseph D. Kelly, "Relation of Otolaryngology to Allergy." All are of New York.

ILLINOIS

Society News.—Dr. John S. Coulter, Chicago, addressed the DuPage County Medical Society, February 19, in Elmhurst on "Physical Therapy in the Treatment of Chronic Arthritis."—— Speakers before the Hancock County Medical Society, March 2, were Drs. Harold Swanberg and Walter M. Whitaker, Quincy, on "Modern Treatment of Cancer of the Uterus" and clinical use of electrocardiography respectively. ——At a meeting of the Perry County Medical Society in Duquoin, March 5, Dr. Eugene Lee Shrader, St. Louis, discussed "Coronary Disease" and Dr. James L. Mudd, St. Louis, "Surgical Treatment of Lung Suppuration."

Chicago

Personal.—Dr. Antoine Lacassagne, associate director of the Curie Institute of Paris, lectured at Michael Reese Hospital, March 10, on "Modern Conception of Radiation in the Treatment of Cancer."——Dr. Jacob Frank observed his eightieth birthday, March 16.

Society News.—At a meeting of the Chicago Gynecological Society, March 20, Dr. Harold H. Hill, Oak Park, Ill., among others, discussed "The Value of the Sturmdorff Cone for Biopsy Material in the Detection of Early Carcinoma of the Cervix Uteri."——The Chicago Society of Internal Medicine was addressed, March 23, among others, by Dr. Harry A. Singer on "Pyrexia Due to Gastric Carcinoma."——Speakers before the Chicago Society of Industrial Medicine and Surgery, March 25, were, among others, Drs. James H. Hutton on "Endocrinology in Industrial Medicine"; Philip H. Kreuscher, "Surgery of Arthritis," and Rosco G. Leland, "Changes Confronting Modern Medicine."

Slayers of Dr. Peacock Confess.—Four young Chicago robbers have confessed to the murder of Dr. Silber C. Peacock, a specialist in children's diseases, January 2. Dr. Peacock had been lured from his home on a fake telephone call, presumably to attend a sick child. The robbers awaited his arrival at the address given and during the encounter he was beaten, shot and robbed of $20. The members of this gang are youths from 17 to 19 years of age, living on the northwest side. They have been identified also by the following four physicians as the hoodlums who recently robbed them of the amounts indicated after the receipt of a fake telephone call to attend a patient: Dr. Joseph F. Konopa, of $11; Dr. Raymond L. Abraham, $57; Dr. Bernard C. Kolter, $19, and Dr. Lars A. Garness, $6. Dr. John P. O'Connell was also held up by the gang on the street, March 20. It is reported that about forty other victims of robberies have filed complaints against these youths. Shortly after Dr. Peacock's death, the Chicago Medical Society appointed a committee to assist the police in handling this situation, and this committee continued to be of service until the murderers were captured. The society not only offered a reward for the apprehension of the murderers of Dr. Peacock but arranged with the police department to have a detective accompany, on request, any member of the society who was called out at night to attend a patient.

IOWA

Lecture Series.—The Jefferson County Medical Society and the speakers' bureau of the Iowa State Medical Society began a series of lectures at Fairfield, March 12, with Dr. Nathaniel G. Alcock presenting the first lecture, on "Malignancies of the Urinary Tract, with Special Reference to Treatment." Other lecturers in the series are:

Dr. Willis M. Fowler, March 19, Diagnosis and Treatment of Nephritis.
Dr. Horace M. Korns, March 26, Medical Treatment of Nontuberculous Diseases of the Lungs.
Dr. Howard L. Beye, April 2, Surgical Treatment of Diseases of the Lungs and Pleura.
Dr. Philip C. Jeans, April 9, Specific Treatment of Infectious Diseases.
Dr. Frank R. Peterson, April 16, Minor Surgery of Today.

All the speakers are members of the faculty of the state University of Iowa College of Medicine, Iowa City.

Society News.—The Clinton County Medical Society was addressed in Clinton, April 2, by Drs. Everett D. Plass and Ewen M. MacEwen, both of Iowa City, on "The Obstetric Pelvis" and "Some Phases of Medical Education" respectively. ——Dr. Henry C. Hesseltine, Chicago, addressed the Dubuque County Medical Society, February 11, on "Recent Advances in the Treatment of Vaginal Discharges."——At a meeting of the Jasper County Medical Society in Newton, February 4, Dr. Kenneth L. Johnston, Oskaloosa, discussed goiter.—— The Johnson County Medical Society was addressed in Iowa City, February 5, by Dr. Edward A. Schumann, Philadelphia, on "Obstetric Deaths."—— Dr. Richard H. Jaffé, Chicago, addressed the Scott County Medical Society in Davenport, February 4, on "Classification of Splenomegalies."

KANSAS

New Buildings at Medical School.—A clinic building, a four story children's ward, a research laboratory and a warehouse will be erected this year at the University of Kansas School of Medicine. The children's ward is being financed by $48,000 of federal funds and an anonymous donation of $60,000. The warehouse will be financed with $10,000 appropriated by the state legislature and $8,000 from federal funds. The Hixon Laboratory for Medical Research, which will replace the temporary structure now in use, will cost $60,000, of which $35,000 is an anonymous gift and $25,000 federal funds. The clinic will be constructed with $55,000 accumulated for this purpose by Bell Memorial Hospital over a period of years and with $45,000 from federal funds, according to *Modern Hospital.*

KENTUCKY

Personal.—Dr. John B. Floyd, Richmond, has been appointed to a position on the staff of the state board of health to succeed the late Dr. Jethra Hancock.

Society News.—At a meeting of the Third District Medical Society in Bowling Green, February 19, the following speakers discussed various phases of treatment of gonorrhea: Drs. John C. Burch and Jefferson C. Pennington, Nashville; George M. Wells and Lawrence O. Toomey, Bowling Green.——The Southwestern Kentucky Medical Association held its quarterly meeting in Marion, February 25, with Drs. Joseph Gant Gaither, Hopkinsville, and Edward B. Willingham, Paducah, as speakers on handling of automobile injuries and pneumoconiosis, respectively.——Dr. Roy Glenn Spurling, Louisville, addressed the Harlan County Medical Society, Harlan, February 15, on "Meningococcic Meningitis." About 100 cases have recently been reported in the county.

LOUISIANA

Personal.—Dr. Ford S. Williams, Oak Grove, director of the health department of West Carroll Parish, has been appointed to a similar position in St. Mary Parish, succeeding Dr. Walter W. Poimboeuf, Franklin, resigned.

Society News.—Dr. Nathaniel G. Alcock, Iowa City, addressed the New Orleans Urological Society, recently, on "Treatment of Bladder Neck Obstruction."——The Fourth District Medical Society was addressed, March 3, by Drs. Vilray P. Blair, St. Louis, on "Indications and Technic for Skin Grafting," and Jason P. Sanders, Caspiana, "Present Day Trends in Treatment of Malaria."—— Dr. Ruffin A. Paine, Shreveport, discussed endocrinology before the Shreveport

Medical Society recently.——The Bi-Parish Medical Society was addressed recently by Drs. Andros S. Hamilton and Stanford Chaille Jamison, New Orleans, on "Common Foot Diseases" and "Acute Vascular Failure in Common Medical Diseases."

Decoration Bestowed on Dr. Matas.—Dr. Rudolph Matas, honorary chief of the surgical service at Touro Infirmary, was presented with a decoration and the title of commander of the National Cuban Order of Carlos Finlay and a diploma of honorary fellowship in the Academy of Medicine of Havana, March 9, at the annual meeting of the Southeastern Surgical Congress in New Orleans. The presentation was made by Dr. Charles Edward J. Finlay, Havana, Cuba, son of Dr. Carlos Finlay. Last year Dr. Matas resigned as chief senior surgeon at Touro Infirmary, a position he had held since 1905. He had been professor of surgery at Tulane University School of Medicine of Louisiana from 1895 to 1927. He was vice president of the American Medical Association in 1921 and again in 1932.

MAINE

Cosmetic Law Upheld by Federal District Court.—A law was enacted in Maine in 1933 prohibiting the sale of cosmetics not registered with the bureau of health. Subsequently the Federal District Court, District of Maine, enjoined the enforcement of the act, presumably on the ground that it contravened provisions in the constitutions of Maine and of the United States. A cosmetic bill was then drafted, which its proponents believed obviated the constitutional defects in the 1933 law. This bill was presented to the 1935 legislature, which passed it and on the governor's approval it became a law. (C. 109, Public Laws, 1935.) The new law prohibits, after Jan. 1, 1936, the sale of cosmetic preparations not registered with the department of health and welfare and authorizes the department to refuse to register or to prohibit the sale of cosmetic preparations "which in its judgment contain injurious substances in such amounts as to be poisonous, injurious or detrimental to the person." An attempt was made to have the same federal district court enjoin also the enforcement of the new law, but the court, February 19, refused to do so, holding that no evidence had been presented to it to show in what way, if any, the new law offended provisions in the state or federal constitution. The state may now enforce the provisions of the cosmetic law, which, it is believed, if properly enforced, will eliminate from the Maine market cosmetic preparations that may be detrimental to health.

MARYLAND

Personal.—Dr. Silas W. Weltmer, who has been acting superintendent of the Spring Grove State Hospital, Catonsville, since the resignation of Dr. Robert E. Garrett in November 1935, has been named superintendent.——Dr. Ira A. Darling, superintendent of the Warren State Hospital, Warren, Pa., has been appointed superintendent of the Springfield State Hospital, Sykesville.

Industrial Training Course.—A special training course for inspectors of industrial hygiene and safety, the first of its kind to be conducted on an interstate basis, was held in Baltimore for ten days beginning February 10, according to Baltimore *Health News*. The instruction, which was supplemented by a series of inspection visits made possible by the cooperation of local industrial plants, was sponsored by the division of labor standards of the U. S. Department of Labor, and the lecture and conference sessions were held at the Johns Hopkins School of Hygiene and Public Health. Miss Frances Perkins, secretary of labor, attended the closing exercises, February 20, and presented certificates to the twenty-five members of the course who hold official positions in West Virginia, North Carolina, Tennessee, Maryland and in the Baltimore health department.

MASSACHUSETTS

State Farm Quarantined for Meningitis.—The Bridgewater State Farm, Bridgewater, was under quarantine March 10, when an outbreak of meningitis was reported. This was the second ban placed on the institution in recent weeks on account of the disease, newspapers reported.

Society News.—Dr. Bernard Appel, Lynn, addressed the Essex South District Medical Society in Lynn, March 4, on syphilis.——At a meeting of the New England Heart Association in Boston, March 23, speakers included Drs. Harold M. Teel on "Cardiac Asthma and Acute Pulmonary Edema as a Complication of Nonconvulsive Toxemia of Pregnancy," and Arthur T. Hertig, "Angiogenesis in the Early Human Placenta."

Prize for Essay.—The Massachusetts Medical Society is offering a prize of $50 for the best written and most comprehensive case report submitted by an intern holding a rotating internship in any Massachusetts hospital approved by the American Medical Association for intern training during 1935-1936. The report is to be typewritten and when completed is to be sealed, unsigned, in a plain envelop, which in turn is to be placed, together with a separate slip bearing the name and address of the contestant, in a larger envelop. It should be mailed to the Massachusetts Medical Society, Committee on Medical Education and Medical Diplomas, 8 The Fenway, Boston, before May 1.

MICHIGAN

State Society Adopts Five Year Program.—At a meeting, January 15, the council of the Michigan State Medical Society approved a five year plan to coordinate and develop the activities of the society. Under the plan, graduate education will be stimulated; the need for proper selection of officers will be emphasized, medical information bureaus will be established in all county societies and information on socialized medicine will be disseminated. Special attention will be given to legislation as it affects the medical profession, and plans for the postpayment rather than prepayment for illness will be developed, according to a statement of the objectives in the *Journal of the Michigan State Medical Society*.

Foundation Offers Graduate Course.—The W. K. Kellogg Foundation is offering a two weeks' graduate course in medicine at Washington University School of Medicine, St. Louis, beginning April 13, for physicians in Calhoun, Barry, Branch, Eaton, Allegan, Hillsdale and Van Buren counties and Battle Creek, which areas are included in the community health project sponsored by the foundation. The course will be under the direction of Dr. Williams McKim Marriott, dean and professor of pediatrics, at the medical school, and it will be adapted to the needs of the general practitioner. Work will begin each morning at 8:30, except on Monday, April 13, when the first meeting of the class will be at 10 a. m. at the St. Louis Children's Hospital, and will continue until 5 p. m., with one hour intermission for luncheon. Evening meetings are planned for at least twice a week, starting with dinner followed by round table discussions of subjects in which the physicians are particularly interested. There will be a farewell banquet at the Kings-Way Hotel, Friday evening, April 24. At least 100 physicians are expected to attend the course, the foundation caring for all expenses.

MINNESOTA

Society News.—The Hennepin County Medical Society was addressed, March 25, by Drs. Lawrence R. Boies and Henry E. Michelson on "Tumors of the Nose and Throat" and "Cancer of the Skin" respectively. Dr. Fred L. Adair, Chicago, will address the society, April 6, on "Placenta Praevia."

A Country Doctor Honored.—A plaque was presented to Dr. Charles L. Scofield, Benson, at a testimonial dinner, March 9, given by the Benson Chamber of Commerce, in recognition "of his fifty years as a country doctor and forty-six years as 'Benson's beloved citizen.'" Dr. Scofield graduated from the University of Iowa College of Medicine in 1886. He was one of the charter members of the Minnesota Association for the Study and Prevention of Tuberculosis, and has served as a member and an officer of the Sanatorium Advisory Commission and the State Sanitary Conference. He was president of the state board of health in 1922. He has served as mayor and a member of the school board of Benson and as a councilor of his district society. Speakers at the dinner included Drs. Albert J. Chesley, executive secretary of the state board of health; Edward A. Meyerding, executive secretary of the Minnesota Public Health Association, and William W. Will, Bertha, president of the state medical association.

MISSOURI

State Medical Meeting at Columbia.—The Missouri State Medical Association will hold its annual meeting at the Hotel Tiger, Columbia, April 13-15, under the presidency of Dr. Edwin Lee Miller, Kansas City, with the Boone County Medical Society acting as host. Monday evening there will be a dinner meeting of the maternal welfare committee, at which Dr. Joseph L. Baer, associate clinical professor of obstetrics and gynecology, Rush Medical College, Chicago, will speak on "Critique of Submitted Maternal Death Reports." Reports of maternal deaths during 1936 will be presented at this meeting. Dr. Baer will also address the general meeting Tuesday on

"Operative Obstetrics," and Dr. Owen Wangensteen, professor of surgery, University of Minnesota Medical School, Minneapolis, will be the guest speaker Wednesday afternoon on "The Acute Abdomen." Frederick A. Middlebush, Columbia, president of the University of Missouri, will speak and the following physicians, among others, will present papers:

Sam E. Roberts, Kansas City, Impaired Hearing: Classification and Management.
Carlie B. Souter Smith, Springfield, Management of Squint.
William M. James, St. Louis, Diagnosis and Treatment of Ocular Complicatons in Syphilis.
William Byron Black, Kansas City, Rational Treatment of Chronic Sinus Diseases.
Jacob Kulowski, St. Joseph, Complications of Pyogenic Osteomyelitis and Their Treatment.
John R. Green, Independence, Etiology of Mesenteric Thrombosis.
E. Lee Dorsett, St. Louis, Prolapse of the Uterus: Operative Treatment with Special Reference to the Manchester Operation.
Bransford Lewis, St. Louis, The Loose Kidney Problem and the General Profession.
Elmer E. Sexton, St. Louis, Problems of the Female Urethra.
Jacob G. Probstein, St. Louis, Serious Complications and Sequelae Resulting from the Injection Therapy of Varicose Veins.
John H. Ogilvie, Kansas City, Methods of Examination of Low Back Pain.
Sinclair Luton, St. Louis, The Clinical Use of Digitalis: Its Variables.
Willard Bartlett Jr., St. Louis, A Ten Year Mortality Study in Toxic Goiter.
Harvey P. Boughnou, Kansas City, Pernicious Anemia.
Edward P. Heller, Kansas City, Management of Injuries to the Spine and Pelvis.
Charles E. Bell, Ira H. Lockwood and Frederick C. Narr, Kansas City, Tumors of Superior Mediastinum.
John H. Hershey, St. Louis, A New Method of Nerve Stimulation.
Caryl R. Ferris, Kansas City, Modern Trend of the Treatment of Staphylococcus Infection.
William M. Kinney, Joplin, Pathology of Silicosis and Silicotuberculosis.
Hyman I. Spector, St. Louis, When Therapeutic Pneumothorax for Tuberculosis Should be Instituted and When It Should be Discontinued.
Robert J. Crossen, St. Louis, Endocrine Treatment in Gynecology.
Joseph W. Larimore, St. Louis, The Ileocecal Segment.
Louis Rassieur, St. Louis, Common Duct Gallstones.

NEW HAMPSHIRE

Personal. — Dr. Ralph E. Miller, assistant professor of pathology, Dartmouth Medical School, Hanover, has been promoted to be associate professor and appointed assistant dean of the school. Dr. Miller is on leave for the current semester studying in Berlin.

NEW YORK

Personal.—Dr. George W. Corner, professor of anatomy, University of Rochester School of Medicine, has been named Thomas Vicary lecturer for 1936 of the Royal College of Surgeons. The lecture will be given in December on a subject in the history of anatomy or surgery. Dr. Corner will also give a series of lectures on physiology of the ovarian hormones under the auspices of the University of London and Guy's Hospital Medical School.——Dr. Louis V. Waldron has been appointed health officer of Yonkers to succeed the late Dr. William S. Coons.——Dr. George Hoyt Whipple, Rochester, was recently elected a member of the board of scientific directors of the Rockefeller Institute for Medical Research, New York.

Society News.—Dr. Joseph L. Baer, Chicago, addressed the Buffalo Academy of Medicine, February 19, on "Prolapse of the Uterus."——Dr. Jesse G. M. Bullowa, New York, addressed the Suffolk County Medical Society at its quarterly meeting in January on pneumonia.——A program on pneumonia was presented at the meeting of the Medical Society of Albany County, February 26; speakers were Drs. Otto A. Faust, John J. Clemmer Jr. and Lemuel Whittington Gorham.——Dr. Thurman B. Givan, Brooklyn, addressed the Medical Society of the County of Nassau, February 25, on the "Diagnosis and Treatment of Congenital Syphilis."——Dr. Evarts A. Graham, St. Louis, addressed the Rochester Academy of Medicine, February 6, on "Congenital Cystic Disease of the Lung in Relation to Pulmonary Suppuration."

Bills Introduced.—S. 1771 and A. 2130 propose to make it the duty "of every attending or consulting physician, nurse, parent or guardian having charge of any minor under six years of age who is totally deaf or whose hearing is impaired" to report the facts to the health officer of the appropriate city, town or village. It is then to be the duty of the health officer to investigate and to have an otologist examine the child and to provide such medical or surgical care and treatment as is needed, if the parents are unable to provide it. S. 1790, to amend those provisions of the civil practice act which authorize a court to require, when relevant, any party to an action and the child of any such party to submit to blood grouping tests and to make the results of these tests admissible in evidence, proposes that the results of the tests be received in evidence only where definite exclusion is established. S. 1791, to amend those provisions of the domestic relations law which authorize the court before whom any paternity proceeding is pending to require the defendant, the child and the mother to submit to blood grouping tests and to make the results of such tests admissible in evidence, proposes to make the results of such tests admissible in evidence only in cases in which definite exclusion is established.

New York City

Patients in City Hospitals.—A total of 243,801 inpatients were admitted to hospitals of the city system during 1935, according to the annual report of the commissioner of hospitals, Dr. Sigismund S. Goldwater. These patients obtained a total of 6,544,472 days of care, an average of 25.1 days per patient. The average daily total of bed patients was 17,930, the report showed. The mortality rate was 6.9 per cent.

Personal. — Dr. George Gray Ward, New York, was a guest speaker at the tenth British Congress of Obstetricians and Gynecologists at Belfast, Ireland, April 1-3. Dr. Ward's subject was "Reconstructive Pelvic Surgery for Genital Prolapse."——Drs. Anthony Bassler, Max Einhorn and Samuel Weiss have been elected honorary members of the Belgian Gastro-Enterologic Society.——Henry C. Sherman, Ph.D., professor of chemistry, Columbia University, received the bronze plaque awarded annually by the Alumni Association of the Graduate Schools of Columbia University for "outstanding contributions to the human race." Dr. Sherman was honored for his work in nutrition. Louis I. Dublin, Ph.D., vital statistician, received a scroll of honor at the same time. The awards were presented at a dinner March 17.

Society News.—At a joint meeting of the New York Heart Association with the section of medicine of the New York Academy of Medicine, March 17, speakers were Drs. Lucy D. Porter Sutton, on "Management of Rheumatic Heart Disease" and Irvine H. Page, "Observations on the Mechanism and Treatment of Hypertension."——Drs. Harrison S. Martland and Raphael Pomeranz, Newark, N. J., addressed the New York Roentgen Society, March 16, on "Etiology of Silicosis and Its Medicolegal Considerations" and "Roentgen Findings in Silicosis" respectively.——Drs. George Edgar Burford and James Seymour Edlin addressed the American Society of Anesthetists at the New York Academy of Medicine, March 18, on "Continuous Flow Administration of Cyclopropane" and "Common Pulmonary Complications Following Abdominal Operations," respectively.——Drs. Richard Kovacs and William Bierman addressed the Bronx County Medical Society, March 18, on "Physiotherapy in Relation to Traumatic Surgery" and "Fever Therapy by Physical Means" respectively.——A symposium on complications of gallbladder surgery was presented at a meeting of the New York Surgical Society, March 11, by Drs. Charles Gordon Heyd, Ralph Colp, Leon Ginzburg and Ellsworth Eliot Jr.

NORTH CAROLINA

Surgical Meeting.—The North Carolina Academy of Surgery held a one-day conference in Charlotte, March 7. Clinics were held at various hospitals in the morning and a program of addresses was presented in the afternoon at the Hotel Charlotte. Speakers were Drs. Fred W. Rankin, Lexington, Ky.; Dean D. Lewis, Baltimore; Joseph E. J. King, New York; Alfred A. Strauss, Chicago, and Edgar F. Fincher Jr., Atlanta.

OHIO

Personal.—Dr. Sidney M. McCurdy, Youngstown, has been appointed director of the medical division of the Ohio State Industrial Commission, succeeding Dr. Hugh H. Dorr, Columbus. Dr. Roy J. Secrest, Columbus, a member of the division's staff for eight years, has been made assistant director.

Hospital News.—Dr. Howard P. Doub, Detroit, was the guest speaker at the third clinical institute of the year at the DeEtte Harrison Detwiler Memorial Hospital, Wauseon, February 13. Dr. Doub conducted a clinic and spoke on "Diseases and Injuries of the Back and Kidneys." Dr. Earl H. Baxter, Columbus, conducted the institute, March 26, on "Modern Trends and Advances in Pediatrics."

Society News. — Dr. John M. T. Finney, Baltimore, addressed the Summit County Medical Society, Akron, March 3, on "Pitfalls to Be Avoided in Surgical Diagnosis."——Dr. Walter M. Simpson, Dayton, addressed the Cleveland Academy of Medicine, March 20, giving "A Clinical Appraisal of Artificial Fever Therapy."——Dr. Charles W. Mayo, Rochester, Minn., addressed the Van Wert County Medical Society, Van Wert,

March 3, on "Comparative Physiology of the Intestinal Tract."——Dr. William J. Egan, Milwaukee, addressed the Cincinnati Academy of Medicine, March 3, on "Clinical Experience with Ultra Short Wave Therapy."——Dr. George M. Curtis, Columbus, addressed the Columbus Academy of Medicine, February 10, on "Splenectomy in Treatment of Blood Diseases."

OKLAHOMA

State Medical Meeting at Enid.—The forty-fourth annual meeting of the Oklahoma State Medical Association will be held in Enid, April 6-8, under the presidency of Dr. George R. Osborn, Tulsa. The general scientific meetings of the state association will be Tuesday and Wednesday mornings, with section meetings in the afternoons. Guest speakers will include:

Dr. William E. Sauer, St. Louis, Cancer of the Larynx; Things Every OALR Man Should Know; Diseases of the Paranasal Sinuses.
Dr. Alfred I. Folsom, Dallas, Texas, Pyelitis in Children; Pyelitis in Infants; Practical Considerations in Treatment of Complications in Gonorrhea.
Dr. Arthur E. Hertzler, Halstead, Kan., Goiter; Hernia.
Dr. Albert N. B. Lemoine, Kansas City, Mo., Fever Therapy in Ocular Manifestations of Syphilis.
Dr. Ira H. Lockwood, Kansas City, Mo., The Use of X-Rays in the Diagnosis of Breast Tumors.
Mr. G. A. Criswell, Oklahoma City, Compensation Insurance.
Dr. Robert U. Patterson, dean, University of Oklahoma School of Medicine, Some Important Contributions to Medical Science by Military Surgeons.

The annual golf tournament will be held Monday afternoon, April 6, at the Meridian Country Club, and the Oklahoma Pediatric Society and the Woman's Auxiliary will hold their meetings that day.

PENNSYLVANIA

Committee on Social Problems.—At a meeting of the board of trustees of the Medical Society of the State of Pennsylvania, February 4, the chairman, Dr. Edgar S. Buyers, Norristown, appointed a committee of five members of the board to be known as the committee on social aspects of sickness service. This committee is to confer between regular meetings of the board with representatives of the standing committees of the state society or others engaged in the study of the social aspects of sickness service as they may involve plans proposed by county societies for benefit of the indigent, those on emergency relief, those seeking to pay on a budget system and those seeking to provide in advance for the so-called catastrophic illnesses. Dr. Augustus S. Kech, Altoona, is chairman of the new committee and members are Drs. David W. Thomas, Lock Haven; George C. Yeager, Philadelphia; Robert L. Anderson, Pittsburgh, and Laurrie D. Sargent, Washington. Members ex officio are Drs. Alexander H. Colwell, Pittsburgh, president of the state society; Maxwell J. Lick, Erie, president-elect; Walter F. Donaldson, Pittsburgh, secretary, and Dr. Buyers, chairman of the board of trustees. Consultant members are Drs. William H. Mayer, Pittsburgh; Francis F. Borzell, Philadelphia; George L. Laverty, Harrisburg, and Chauncey L. Palmer, Pittsburgh.

Philadelphia

Dr. Landis Receives Phillips Medal.—Dr. Eugene Markley Landis, assistant professor of medicine, University of Pennsylvania School of Medicine, received the Phillips Memorial Medal of the American College of Physicians at the annual session of the college in Detroit, March 4, in recognition of work in the field of capillary physiology and disturbances of the peripheral circulation. Dr. Landis, who is 35 years old, was graduated from the University of Pennsylvania School of Medicine in 1926. In 1929 he received a Guggenheim fellowship to study reactions affecting minute blood vessels with Sir Thomas Lewis in London.

Auxiliary Sponsors Health Institute.—The Woman's Auxiliary of the Philadelphia County Medical Society will conduct its sixth annual health institute at the society's building, April 14. Among speakers will be:

Dr. Edward J. G. Beardsley, What Life Teaches the Doctor.
Dr. Harriet L. Hartley, Child Health.
Dr. Martin E. Rehfuss, Diet After Forty.
Dr. Joseph C. Doane, Hearts and the Family Budget.
Dr. Louis H. Clerf, Household Aids to Health.
Dr. George E. Pfahler, Cancer—Increasing Hope for the Patient.
Dr. Samuel B. Scholz Jr., Periodic Health Examinations.

Mrs. W. Burrill Odenatt, president of the auxiliary to the Medical Society of the State of Pennsylvania, will speak on "The Auxiliary and Its Purpose" and Drs. Clifford B. Lull, adviser to the auxiliary, and George C. Yeager, president of the county society, will bring greetings.

Society News.—Dr. David L. Edsall, formerly dean of Harvard Medical School, Boston, addressed the section on public health, preventive and industrial medicine, College of Physicians of Philadelphia, on "The Teaching of the Practice of Preventive Medicine." The occasion was the annual "Student's Night."——Speakers before the Philadelphia Academy of Surgery, March 2, were Drs. Bruce L. Fleming, on "Inguinal Hernioplasty by Fascial Transplant"; Frederick A. Bothe and Joseph T. Beardwood Jr., "Evaluation of Abdominal Symptoms in the Diabetic," and Virgil H. Moon, "An Experimental Analysis of the Symptomatology and Mechanism of Death Following Intestinal Obstruction."——A symposium on "Intracranial Complications of Otorhinic Origin" was presented before the Philadelphia Laryngological Society, March 3, by Drs. Oscar V. Batson, Benjamin H. Shuster and Francis C. Grant.

RHODE ISLAND

Bills Introduced.—S. 233, to amend the law regulating the practice of hairdressing and cosmetic therapy, proposes, among other things, to permit such licentiates "to remove superfluous hair from the body of any person." H. 952, to amend the medical practice act, proposes to provide for the licensing of persons desiring to practice electrolysis by the chief of the division of examiners in the department of public health. Electrolysis the bill proposes to define as "the removal of superfluous hair and the decomposition of such hair by the use of an electric needle or needles." The bill sets out no educational qualifications whatsoever to be exacted of such applicants other than to require applicants to "present satisfactory credentials and submit to an examination" by a competent person appointed by the director of public health. S. 289, to amend the laws relating to the practice of osteopathy, proposes that a certificate to practice osteopathy shall confer on the holder thereof "the same rights and privileges and the same duties and obligations as a certificate to practice medicine, except the practice of major surgery; provided, however, that any holder of a certificate to practice osteopathy, who can satisfy the board of examiners that he has completed one year postgraduate internship in a hospital approved by said board, may be granted a license to practice any branch of surgery." The bill further proposes that "all persons receiving the degree of Doctor of Osteopathy and Doctor of Medicine shall be accorded the same rights and privileges under government regulations." H. 953 proposes to require any person harboring, or any hospital, maternity home or other institution treating, a woman on whom an illegal abortion has been attempted to report the facts within forty-eight hours after knowledge of the case to the director of the department of public health.

TEXAS

Society News.—Drs. Marvin D. Bell and Elliott M. Mendenhall, Dallas, addressed the Grayson County Medical Society, Sherman, recently, on "Melanomas" and "Artificial Pneumothorax Treatment in Pulmonary Tuberculosis" respectively.——Drs. John R. Nicholson and Otto J. Potthast, San Antonio, among others, addressed a joint meeting of the Hays-Blanco, Guadalupe, Caldwell and Gonzales county medical societies in Luling, recently, on "Cystitis as a Symptom" and "Use of Coley's Serum" respectively.——Dr. James C. White, Boston, presented a paper on "Surgical Measures in the Treatment of Angina Pectoris" before the Harris County Medical Society, Houston, recently.——Dr. Prather T. Kilman, Malakoff, discussed rabies at a meeting of the Henderson County Medical Society, Athens, February 3.——Speakers at the meeting of the Dallas County Medical Society, April 9, will be Drs. Robert L. Moore, on "Prevention and Treatment of Measles"; Penn Riddle, "Injection Treatment of Hernia," and Julius McIver, "The Cystogram as a Diagnostic Aid in Placenta Praevia."——Dr. Ximie R. Hyde, Fort Worth, was elected president of the Texas Radiological Society at a recent meeting in Galveston.

VIRGINIA

Health at Richmond.—Telegraphic reports to the U. S. Department of Commerce from eighty-six cities with a total population of 37 million, for the week ended March 21, indicate that the highest mortality rate (23.8) appeared for Richmond and that the rate for the group of cities as a whole was 13.8. The mortality rate for the corresponding week of 1935 for Richmond and for the group of cities was 15.9. The annual rate for the eighty-six cities for the twelve weeks of 1936 was 13.7, compared with 12.8 for the corresponding period of 1935. Caution should be used in the interpretation of these weekly figures, as they fluctuate widely. The fact that a city is a hospital center for a large area outside the city limits or that it has a large Negro population may tend to increase the death rate.

WASHINGTON

New State Secretary.—Dr. Vernon W. Spickard, Seattle, has been elected secretary-treasurer of the Washington State Medical Association to succeed the late Dr. Curtis H. Thomson, Seattle. Dr. Harrison Garner Wright, Seattle, was made assistant secretary-treasurer. The new address of the state association will be 518 Cobb Building, Seattle.

WISCONSIN

Federal Funds to Aid Health Program. — Wisconsin's share of federal funds for health work available under the social security act, about $139,000, will be used to set up a health organization to demonstrate the value of public health administration on a county basis, according to newspaper reports. The state will be divided into nine districts, each manned by a physician, sanitary engineer, public health nurse and clerk and, in addition, three county units will be established for demonstration purposes. The state programs for control of tuberculosis, goiter and venereal diseases will be augmented. The program was outlined at a meeting in Madison, February 27, attended by an advisory committee representing the State Medical Society of Wisconsin. Members of the committee are Drs. Albert H. Lahmann and Abraham B. Schwartz, Milwaukee; Guy W. Carlson, Appleton; Marshall O. Boudry, Fond du Lac, and Joseph F. Smith, Wausau; Mr. J. George Crownhart, Madison, secretary of the state society, and G. B. Larson, assistant secretary.

ALASKA

Dawson Quarantined for Scarlet Fever.—Dawson was placed under quarantine, March 18, with public gatherings banned, after several persons were stricken with scarlet fever on returning from a carnival at Fairbanks. Schools, churches and theaters were closed, the New York *Times* reported.

GENERAL

Death Rate Maintains Same Level. — The provisional death rate for eighty-six cities reporting to the U. S. Department of Commerce in 1935 was 11.4 per thousand of population, according to figures recently released. Although the total number of deaths was 424,969 in 1935 as compared with 426,990 in 1934, the rate is identical with that of 1934. Cities with the lowest death rates were Yonkers, N. Y., Detroit and Flint, Mich., Somerville, Mass., and Akron, Ohio, while the highest rates were in Nashville, Tenn., Washington, D. C., New Orleans, La., and Memphis, Tenn.

Meeting of Anatomists. — The American Association of Anatomists will hold its fifty-second session at Duke University School of Medicine, Durham, N. C., April 9-11, under the presidency of Dr. Warren H. Lewis, Baltimore. More than 150 papers will be read. Included on the program are symposiums on "The Structure of the Hypophysis," "Lymphocytes, Macrophages and Fibroblasts," "Ovulation," "Premedical Education for Anatomy," "Hormones and Development," "Pulmonic Alveolar Epithelium," "Functions and Structure of the Frontal Lobe" and "Effects of the Ovum on Maternal Tissue."

A Swindler with Tuberculosis.—A man giving the name Robert Crossland has recently been reported as giving to several physicians in Indiana checks which were later returned marked "No account." An Elkhart physician reported to the police that the man came to his office for an examination, giving a history of tuberculosis. At the conclusion of the examination Crossland gave the physician a check for $12 on the South East National Bank of Chicago. The man claimed that he had been a patient at the Veterans' Administration Facility at Hines, Ill., and was to be transferred to the facility at Oteen, N. C. According to the report the man was about 40 years old, 5 feet 7 inches tall and weighed 128 pounds. He gave a history consistent with pulmonary tuberculosis since 1921. Physical examination showed involvement of the left side of the chest, with coarse râles and dulness to percussion. A roentgenogram showed an area of abnormal density about 5 by 8 cm. in the lower part of the left side of the chest. The left costophrenic angle was obliterated and the left diaphragmatic excursion markedly limited.

News of Epidemics.—An epidemic of measles in Dallas, Texas, had affected more than 200 school children with two deaths within two weeks, Dallas newspapers reported March 8. ——Twenty-one cases of German measles at Lehigh University, Bethlehem, Pa., led to a ban on public gatherings between February 27 and March 11; classes were not suspended.—— Fifty-eight families in Westover, Pa., a town of about 800, were quarantined because of measles, it was reported March 5. ——The New York City health department reported 1,489 cases of measles during the week ended February 29, an increase of 809 over the number for the corresponding week of 1935.—— More than forty children were reported to be ill of chickenpox at Oaks, Pa., a small community in Montgomery County.—— About 140 students at the University of Missouri, Columbia, were reported ill of influenza February 25; there was one death. —— Influenza was reported to be widely prevalent in upstate New York, March 13; seven schools were closed and it was estimated that about 2,000 children were ill. In Glens Falls, 800 residents were reported to have the disease.

Medical Bills in Congress.—*Changes in Status:* H. J. Res. 538 has been reported to the House, providing for the participation by the United States in the ninth International Congress of Military Medicine and Pharmacy in Rumania, 1937, and proposes to request the President of the United States to invite the congress to hold its tenth meeting in the United States in 1939. H. R. 3629 has passed the House and Senate, authorizing the acquisition of additional land for the use of the Walter Reed General Hospital. *Bills Introduced:* S. 4342, introduced by Senator Copeland, New York, proposes to create a Division of Stream Pollution in the Bureau of the Public Health Service. H. R. 12003, introduced by Representative Hildebrandt, South Dakota, proposes to authorize an appropriation of $350,000 to erect a veterans' hospital in South Dakota for the diagnosis, care and treatment of general medical and surgical disabilities. H. R. 11985 and H. R. 12005, introduced by Representative Ramsay, West Virginia, propose to prevent the manufacture, sale or transportation of adulterated or misbranded or poisonous liquors. H. R. 12028, introduced by Representative Kennedy, Maryland, proposes to provide hospitalization for certain employees in the Bureau of Navigation and Steamboat Inspection of the Department of Commerce and for licensed local pilots of the United States. H. R. 12034, introduced by Representative Lemke, North Dakota, proposes to authorize an appropriation of $180,000 to construct an addition to the veterans' facility at Fargo, North Dakota, for the care and treatment of general medical and surgical disabilities. H. R. 12059, introduced by Representative Huddleston, Alabama, proposes to provide a system of federal old-age pensions.

Government Services

Openings for Physicians in Conservation Corps

Announcement is made of vacancies on the medical staff of the Missouri-Kansas district of the Civilian Conservation Corps, with headquarters at Fort Leavenworth, Kan. Recent graduates of class A medical schools are preferred, but physicians with extended civilian practice experience are acceptable. All correspondence should be addressed to the district surgeon, Missouri-Kansas District CCC, Fort Leavenworth, Kan.

Positions Open for Psychiatrists

The U. S. Civil Service announces open competitive examinations for three positions at St. Elizabeth's Hospital, Washington, D. C.: clinical director (female), at a salary of $5,600 a year; director of laboratories, $5,600, and associate psychotherapist (female), $3,200. The degree of doctor of medicine from a recognized medical school is required for all positions. Applicants for the position of clinical director must show a minimum of five years' experience in psychiatry, which must include at least two years' experience as administrator of a hospital unit of not less than 150 beds, treating patients with all types of psychiatric conditions. Applicants for the directorship of laboratories must have had five years' training and experience in research activities in psychiatry and allied subjects. For the third position, three years' specialized work in a psychiatric hospital or clinic operating directly in the field of research and treatment by psychotherapeutic methods is required. Applicants must be in sound physical health and must not have reached their fifty-third birthday. Applications must be filed with the U. S. Civil Service Commission, Washington, D. C., not later than April 20. The necessary forms may be obtained at any first class postoffice, from the Washington office or from the district offices in Atlanta, Boston, Chicago, Cincinnati, Denver, New Orleans, New York, Philadelphia, Seattle, St. Louis, St. Paul, San Francisco, Honolulu, T. H., Balboa Heights, C. Z., and San Juan, P. R.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 29, 1936.

The Problem of the Diet of the Poor

In an address to the Farmers' Club, Sir John Orr, director of the Imperial Bureau of Animal Nutrition and a leading authority on this subject, attempted to reconcile the interests of the poor, who want cheap food, with those of the farmers, who want good prices. With the object of raising prices, he said, tariffs and quotas had been applied to imports, and agriculture had been given powers to limit the amounts of home-produced foods and to fix minimum prices. These powers carried grave responsibilities. If they were fully developed, 7 per cent of the population would control the food supply of the remaining 93. Those exercising these powers must therefore think not only of the wholesale price that would make farming remunerative but also of the retail price within the reach of all consumers. A recent investigation showed that the diets of the poorer classes were deficient in substances required for health. To bring the diet of the poorer half of the population up to the standard required, the consumption of eggs, fruit, vegetables and meat should be increased from 12 to 25 per cent. To bring their diet up to that of the well-to-do would require double that increase.

SUBSIDIZED CONSUMPTION

Sir John Orr paid a tribute to what had been done in organizing agriculture, especially in connection with marketing, and to the government, which took office when the world economic crisis was at its worst. The one thing needed was better prices to give the farmer more money. Where was the money to come from? If what he said with regard to the health aspect was true, it could not come from rise in the price of food unless there was a big rise in unemployment benefit and in the wages of the poorest paid workers. If there could be a subsidized national food policy in the interests both of agriculture and of health, agriculture could be developed along the lines of increasing the production of foodstuffs of special health value. The policy of buying health and making a prosperous countryside by spending more money on food would reconcile the apparently conflicting interests of the farmer and the poor who must have cheap food.

In moving a vote of thanks to Sir John Orr, Lord Bledisloe, a well known agriculturist, said that he had painted a picture of underfeeding in a land of glutted food markets which was no credit to our national organization. Let the government ascertain in national food requirements and the sources from which they could be best obtained on an economic basis and then by some form of protection or guaranty assure to the efficient producer a reasonable margin of profit.

Snake Venom as a Hemostatic

The coagulant action of certain snake venoms on blood is well known. This led to the suggestion by Dr. Hamilton Hartridge, F.R.S., professor of physiology at St. Bartholomew's Hospital, that snake venom might be of value in the treatment of hemophilic hemorrhage. R. G. Macfarlane, demonstrator of pathology in the hospital, and Burgess Barnett, curator of reptiles in the Zoological Gardens, accordingly made an investigation (*Lancet* **2**:985 [Nov. 3] 1934) into the action of various venoms on hemophilic blood. Their most striking results were obtained with Vipera russeli. One drop of a 1:1,000 solution of the dried venom added to 10 drops of hemophilic blood produced clotting in seventeen seconds, while spontaneous clotting took thirty-five minutes. Moreover, the clot was tough and elastic, in contrast to the soft ineffective clot of hemophilia. A dilution of 1:10,000 or even 1:100,000 was found to have a clotting time sufficient for practical purposes—about sixty seconds. The action of the powerful toxins in the venom is negligible in the 1:1,000 solution. Complete hemostasis by the local application of the 1:10,000 solution was secured almost immediately to stop hemorrhage after tonsillectomy and hemorrhage in hemophilic patients following dental extraction.

At the recent meeting of the Odontological Section of the Royal Society of Medicine J. D. Cambrook, assistant dental surgeon at St. Bartholomew's Hospital, reported his results from this treatment. He pointed out that it was necessary to sterilize the venom. As heat destroys the coagulant, sterilization was accomplished by filtration. At first the venom was put up in solution, but this was found to be unstable unless kept in a refrigerator. The difficulty was overcome by evaporating the venom with saline solution under reduced pressure, so that addition of water gave a 1:10,000 dilution in physiologic solution of sodium chloride. Thus a stable sterile product was secured and it is this which is now used. The action of the venom in so markedly diminishing the coagulation time, not only of hemophilic but of any blood, is not well understood.

Mr. Cambrook has used the venom in more than fifty cases of dental hemorrhage arising from different causes, including several cases in hemophilic patients. If there is a history of hemorrhage he removes teeth under local anesthesia, as this allows early manipulation of the wound without pain. Block anesthesia is preferable, as injection near the socket causes some local damage. After the extraction a short, squat plug of absorbent cotton is soaked in hot venom. Pressure is applied only to the edges of the socket and not down into the socket, so that the plug becomes mushroom shaped and acts as a mechanical obstacle to the flow of blood. The pressure on the plug squeezes out the venom and mixes it with the blood in the socket, so as to form a firm clot. The plug is left in position until it falls out, and if hemorrhage occurs another plug is substituted.

The Dangers of Aminopyrine

Another inquest has again called attention to the dangers of aminopyrine, mentioned in a previous letter. The deceased was a man, aged 67, who suffered from asthma and bronchitis, for which he had obtained relief by taking tablets containing aminopyrine. He died after taking eight tablets of the preparation, in which he had great confidence. There was nothing on the bottle warning against taking too many. The instructions were that one or two should be taken when required. In giving evidence the government pathologist, Sir Bernard Spilsbury, said: "Pyramidon is a drug which has a proper use, but the danger lies in cases of idiosyncrasy. People take these tablets for a long time with impunity and then the symptoms develop. The benefits obtained from the drug give a false sense of confidence." A representative of the makers of the tablets said that steps had been taken to exclude the drug from the preparation, which now "would be equally efficacious and less harmful." The coroner said that after May 1 the drug would be on the dangerous list, rendering its promiscuous sale more or less impossible. It was taking the drug without physician's orders that constituted the danger. Some people seemed unable to take aminopyrine with safety.

Milking Machines and Mastitis

At a meeting of the Research Committee of the Royal Agricultural Society, Dr. F. C. Minett made a report on milking machines and their relation to mastitis in cows. A herd of 130 Ayrshire cows has been under constant supervision of the Institute of Animal Pathology for five years. During this time only a small proportion was affected with the ordinary chronic

and contagious form of streptococcic mastitis, but there were numerous cases of acute mastitis due to a streptococcus different from that causing the chronic form. It was suspected that the fault lay with the milking machine, and after consultation with the maker the milking vacuum was reduced from 15 to 13 inches. This slightly increased the milking time, but since the change, three months ago, no further cases of mastitis have occurred. During the previous nine months there were at least twenty-one cases. In the past the installation of a milking machine for herds previously milked by hand has often been followed by an outbreak of mastitis and the machine has been blamed for causing or spreading this. The truth appears to be that the ordinary chronic mastitis is widespread in a subclinical form, which remains so as long as the cows are milked by hand; but with the change in the method of milking the mastitis becomes apparent. If the udders are really healthy, the system of milking will have no effect.

Veterinary Help for Animals in Abyssinia

The Royal Society for the Prevention of Cruelty to Animals has made an appeal for help for the animals, which must endure terrible sufferings in the war in Abyssinia, as there is no veterinary service. During the great war the society collected nearly $1,250,000 and spent it on British sick and wounded horses. In an appeal for funds, published in the *Times*, the society suggests that the need now is greater in one way, as the Abyssinians have made no provision for the care of their animals.

PARIS

(From Our Special Correspondent)

March 10, 1936.

Hyperparathyroidism

Leriche has published in the *Gazette des hôpitaux* his paper on surgery of the parathyroids, read at the international congress in Egypt. He reviews the indications for excision of the parathyroids, which he performed with Jung in thirty-five cases. In Recklinghausen's disease, which is an ankylosing polyarthritis, Leriche is somewhat hesitant, although in favor of intervention. Scleroderma, in his opinion, is the cutaneous expression of hyperparathyroidism. In scleroderma the skin, like many other organs, has an abnormal calcium content, and the bones are rarefied. The therapeutic results of excision are often good, and some cases have remained cured for ten years. Leriche advises, in the worst forms, intervention on the sympathetic system together with ablation of the parathyroids. There are in scleroderma, vasoconstrictive lesions which sympathectomy influence. Moreover, ablation of endocrine glands always has some effect on the paravertebral and previsceral ganglions. In 1932 Leriche pointed out that surgery of the parathyroids must be looked on as surgery of interrelated tissues. This view is now confirmed. The maintenance of the calcium level in the blood is constantly insured by borrowing calcium from the bones, the process being controlled by the parathyroids. So the parathyroid hormone regulates calcium metabolism. Experimental hyperparathyroidism leads to bone decalcification, to calcemia and phosphatemia, and to metastatic calcifications of the skin and arteries; but only diffuse decalcification of the bones, with or without metatastic calcification, allows a diagnosis of hyperparathyroidism. Many of the diseases must be now studied from the parathyroid angle, especially those in which metastatic calcifications exist, such as calcinosis and gout. On the other hand, in case of hypoparathyroidism Leriche proposes to reactivate the deficient parenchyma by producing vasodilatation. In three cases of tetany, which is the clinical expression of hypoparathyroidism, Leriche tried ablation of the superior cervical ganglion of the sympathetic. The results were promising.

The New Leprosy Center in South America

There are in South America two large leprosy areas: in the North, Guiana, Venezuela, Colombia and Ecuador; in the Southeast, Brazil, Argentina and Paraguay. In Brazil, it is estimated there are at least 50,000 lepers. The Brazilian government has just founded, with the assistance of the League of Nations, a well equipped leprosy center in Rio de Janeiro. Its director will be Professor Edward Rebello of the Rio de Janeiro Faculty of Medicine. Contracts were made with various health organizations, including the Institut Oswaldo Cruz, the government health services and leprosy hospitals, to insure the cooperation of every important leprosy service with the new center. The most notable organization against leprosy heretofore has been the São Paulo Service, which required the isolations of lepers in five hospitals or colonies. The new center will cost about 10 million francs, donated by the Brazilian government, the League of Nations and a French-Brazilian citizen, M. Guinle. The center will cooperate with any South American nation concerned with the leprosy problem.

Dermatology and Pathology

In the congress at Budapest, last year, Dr. Darier read a paper on the history of dermatology during the last fifty years, pointing out that dermatology was an unusual field for those interested in general pathology. Darier deplored the confusion of terms that prevails in dermatology. There is urgent need of principles, exact terminology and standardization in this branch of medical science. Darier discussed the need of making an exhaustive diagnosis. His considerations went beyond the bounds of dermatology, into general pathology. But his views are in opposition to those of Loeper, as expressed in a recent inaugural address. Loeper aims to explain everything by chemical specificity, Darier by individual reactions. Their views embody the two great tendencies of medicine either toward the disease or toward the patient. As usual, the truth is probably in between these extremes, but it is interesting to witness controversies between exponents of conflicting theories.

BERLIN

(From Our Regular Correspondent)

Feb. 8, 1936.

Federal Commission for the Protection of German Blood

The so-called Nuremberg laws make the conclusion of marriage between citizens having two Jewish grandparents and Germans or non-German Aryans, or citizens having but one Jewish grandparent, subject to the approval of the minister of the interior and of the deputy to the führer. A federal commission for approval of marriages has been organized for examination of petitions.

The information utilized by this commission in arriving at its decisions is prepared, after specific investigations, by the high administrative bodies throughout the reich (provincial governors, district prefects, high officials of the independent German states) with which the petitions for approval are lodged. These administrative officials gather what information they can with regard to the petitioner's physical, mental and moral qualities, his participation in the World War, his political reliability and his racial character. In addition, an investigation of the petitioner's family history is undertaken in order to ascertain for how long the family has been domiciled in Germany, what professions or trades its members have followed, whether or not required terms of service in the German armed forces have been fulfilled, and whether or not the family, especially if of German blood, has participated in German cultural life. The administrative body also subjects the petitioner to a physical examination by the health authorities. This examination is especially concerned with racial characteristics. The

administrative body must then obtain, appended to the transcript of the results of this examination, the recommendation of the director of the local public health bureau of the National Socialist German Workers Party. This local director transmits his opinion to the district supervisor of the same bureau, who returns it to the administrative body after appending his own recommendation.

The federal commission consists of seven regular members, four of whom at the present time are physicians, and, in addition, seven alternate members, one of whom is a physician. The commission, on its initiative, can make investigations, summon experts and, which is more important, order the petitioner to appear in person before it. The conclusions of the commission are in the form of recommendations. The power of approval or rejection rests with the minister of the interior and the deputy of the führer. A fee of 10 marks is charged for the granting or denial of a petition; moreover, the costs in each individual case are assessed against the petitioner.

First Aid for Sudden Illness

A poster emanating from the Insurance Physicians' Association, the Hospital Association and the Central Municipal Bureau of Health was recently affixed to buildings in Berlin. This notice directed the population, in the event of sudden illness, if the stricken person's regular physician could not be summoned, to call on a "first aid physician (*bereitschaftsarzt*)" of the League of German Physicians (an exclusively Aryan organization). The municipal first aid stations (rettungsstellen) must henceforth be resorted to only in emergency cases in which it is a matter of life and death. In all other cases these stations shall either refuse to treat the sick person or charge him for such treatment, as sick insurance will not cover the cost of such service. Each person now receives prompt medical attention, in the event of sudden illness, from a first aid physician. Much unnecessary effort and expense are saved in this manner. This regulation is important because it means that, since the insurance physicians' organization seldom grants fees to authorized member physicians, only in exceptional cases can an unauthorized physician now receive a fee from the organization. This regulation must be applied also in the first aid stations. Among other noteworthy advantages of the new rule, it removes a burden of steadily mounting expense from these stations.

Every practicing physician belonging to the National Socialist Physicians' League or the Berlin League of German Physicians is obliged to participate in the first aid service unless incapacitated by age or illness. Hours of night duty are from 7 p. m. to 7:30 a. m., of Sunday duty from 8 a. m. to midnight. While in service duty a physician can only exceptionally make a professional visit in the neighborhood, even to one of his own patients. A pamphlet, appearing quarterly, will contain a schedule of all first aid physicians and the dates assigned them for service.

Violations of Venereal Disease Legislation

The operation of the antivenereal disease law of Feb. 18, 1927, in terms of adjudicated cases of violation may be studied in data for the first five year period from 1928 to 1932. The provision most frequently violated was that which prohibits a person with a contagious venereal disease from indulging in coitus. Since 1928 the number of convicted violators of this clause has decreased from 292 in 1928 to 206 in 1932. The number of females convicted was nearly three times that of the males. Punishment for this particular offense consisted generally of prison terms of less than three months. Fines were less frequently imposed. The proportion of offenders under the age of 18 amounted to about 5 per cent and was therefore almost as low as the corresponding proportion shown by figures for the entire reich on the age-group distribution of venereal disease. Among juvenile offenders the female sex preponderates by a wide margin; of a total of sixty young persons convicted from 1928 to 1932 only three were males. A majority of the juvenile offenders received suspended sentences. Comparatively seldom did a court hear charges against venereal disease sufferers who had married without informing the marriage partner of their condition. In the five year period under discussion only nine such cases were disposed of, convictions resulting in seven of these cases (four men, three women). From these meager figures no opinion can be formed as to the incidence of venereal disease in persons contracting marriage. During the same five years, 576 persons not licensed to practice medicine were charged with the illegal treatment of venereal diseases; of this number, 491 (including seventy-nine females) were convicted. Only thirty-three received prison sentences; fines were imposed on the others. In the same period fourteen physicians were convicted of the unethical public advertising of the treatment of venereal diseases. In all of these cases, fines were imposed. Sixty-five persons were found guilty of having advertised alleged cures or palliatives for venereal diseases.

According to data from the state bureau of health, made public, as was the preceding, by Dr. Pohlen, twenty-six midwives contracted infections from newly delivered or lying-in women during the years 1929 to 1934.

The Blood and Spinal Fluid in Barbituric Acid Poisoning

Drs. Voss and Fretwurst of Brambeck Hospital, Hamburg, have undertaken in ten cases of barbital poisoning and one of phenobarbital poisoning the study of comparative quantitative determinations of the barbituric acid content in the erythrocytes, blood plasma, cerebrospinal fluid and urine. No barbituric acid derivants were present in the erythrocytes. On the other hand, substantial quantities of barbital and of phenobarbital could be isolated in the plasma, cerebrospinal fluid and urine. The slow passage of the barbituric acid derivatives from both erythrocytes and fluids makes manifest, according to the interpretation of the authors, that it is a question of simple dialysis. The rest of the spinal fluid observations were for the most part normal. A considerable increase in the spinal fluid pressure was in no case observed. Only one case (severe barbital poisoning) showed slight increase in albumin content and a slight increase in the number of cells.

VIENNA

(From Our Regular Correspondent)

Feb. 15, 1936.

Treatment of Joint, Gland and Bone Tuberculosis

In a lecture before the Society of Physicians, Dr. Max Jerusalem discussed the problem of surgery in tuberculosis other than pulmonary. Forty years ago two conflicting attitudes existed with regard to this question, one group called conservative, and another group more favorable toward operations. Soon it was perceived that these questions must be viewed in the light of individual differences not only between patients but between physicians as well. Important too is the nature of the disease, whether fibrous or destructive. In the last decade the conservative procedure has gained many adherents, particularly as the importance of heliotherapy and roentgenotherapy has been recognized. The heliotherapeutic stations in Switzerland are well known. Nevertheless in recent years many Swiss specialists have rather turned to surgical treatment, which, if the indication is correct, may save much time and effect speedier cures. Dr. Jerusalem, who has gained vast experience in tuberculosis as a sick insurance physician, states his guiding principles as follows: Treatment of bone, gland and joint tuberculosis should be predominantly and almost entirely conservative. Selection of therapeutic measures must

depend on the particular conditions presented in each separate case. When operative treatment is indicated, one should be guided by the following suggestions: 1. Isolated, not unduly large, firm, movable glandular tumors on the axillae or neck, when refractory to radiotherapy, should be extirpated. 2. Wide electrosurgical opening of small cold abscesses on the thorax or neck should be done, evacuation without drainage (in order to avoid mixed infection), then complete suture and, after primary healing, roentgenotherapy. 3. Bone sequestrums should be removed only if spontaneously projecting outward in a necrotic state or as foreign bodies lying in the soft parts. 4. Fungus on tendon sheath that may cause liquefaction should be treated as under 2. 5. Para-articular bone areas may occasionally be removed. This requires a large amount of skill. 6. Resection of the knee joint should be done in adults presenting a shrunken fibrous capsular fungus with erosion of the cartilaginous covering. 7. Amputation should be done in cases of progressive joint processes in aged patients; otherwise treatment should be as conservative as possible. 8. After successful treatment, osteotomy and arthroplasty should be chosen as a secondary operation for the purpose of correcting posture. 9. Contraindicated are simple incision and drainage of a cold abscess, scraping of central bone sequestrums, extirpation of multiple diffuse glands on the neck or axillae and resection of carious ribs, as well as resection of all joints with the exception of the knee joint as indicated.

Deaths of Professors Busson and Maresch

In the first days of the new year the Vienna Faculty of Medicine suffered two severe losses. First, a great serologist and bacteriologist, Prof. Dr. Bruno Busson, aged 56, died. At an early age he obtained the doctorate in both philosophy and medicine and then began his career as an assistant to Professor Prausnitz at the Institute of Hygiene, Graz. In 1911 he came to Vienna to work under Professor Paltauf at the Serotherapeutic Institute. During the war he was in charge of a mobile laboratory and thanks chiefly to his efforts no diseases or epidemics were able to gain a foothold among the Austrian troops, even in regions where the surrounding sanitary conditions were of the worst (the Balkans, Russian Poland, Turkey). After the war he resumed his duties at the Vienna institute and was above all active as director of the Serum Control Center. All serums and vaccines, imported or domestic, were examined by this center. Dr. Busson also headed the institute founded by Paltauf for protective inoculation against rabies. His scientific labors were concerned with the problems of immunization and of experimental medicine.

A few days later Dr. Rudolf Maresch, director of the Pathologic-Anatomic Institute of the University of Vienna, died. Of German-Bohemian extraction, he took his degree at Prague, where he became assistant under Professor Rable in the Institute of Anatomy. Subsequently he came to Vienna and first worked under Gussenbauer and later under Professor Chrobak at the woman's clinic. Still later he became active in Professor Chiari's Institute of Pathologic Anatomy and finally was appointed senior pathologist for two of the largest hospitals in Vienna. His scientific activity at the University of Vienna gained for him the titles of docent (1911), assistant professor (1916) and professor in ordinary of pathologic anatomy (1923). The internal secretions were his particular interest, although he was also concerned with gynecology and the digestive tract. That he was an able organizer, the construction of the institute's new building under his direction bears ample testimony. The largest lecture hall of the University of Vienna, from the 400 comfortable seats of which the students obtain an adequate view of the specimens, also owes its existence to him. In addition he organized an extremely comprehensive museum, which is one of the sights of Vienna, and placed it at the disposal of the students. Professor Maresch filled all the high posts within the gift of the university; he was successively dean, rector and president of the Vienna Academy of Science. For the past year he had been afflicted with a carcinoma of the bronchus, which caused his death at the age of 68. His school has attained preeminence as the result of the great number of his former pupils who fill important professional posts throughout middle Europe.

ITALY

(From Our Regular Correspondent)

Jan. 31, 1936.

Reunion of Physicians Pertaining to Aviation Medicine

The first national assembly on aviation medicine was recently held in Milan with Professor Cornelli presiding. Professor Herlitzka, a physiologist of the University of Turin, spoke on physiology in high altitudes. The atmosphere can be divided into four zones according to the effects that atmospheric pressure causes on the organism of aviators as they fly into high altitudes. The first zone includes the atmosphere from sea level to an altitude of 4,000 or 6,000 meters. The barometric pressure in this zone ranges between 460 and 400 mm. of mercury. Within these limits no noticeable organic disturbances are felt. The second zone reaches an altitude of 8,000 meters above sea level. Its barometric pressure ranges between 250 and 200 mm. This zone is characterized by causing the so-called disease of the altitudes. The third zone reaches an altitude of 14,500 meters above sea level. Its barometric pressure is 95 mm. The preservation of life at this altitude is possible only if respiration is made with pure oxygen or a proper mixture of gases. Above the third zone, that is, in the last and highest layer of the atmosphere, aviation is possible only by isolating the aviator from the surrounding atmosphere by means of an air-tight cabin or of an apparatus similar to a diver's dress, provided in each case with the oxygen supply. The most noticeable deficiency that aviators find in reaching great altitudes is that the diminution of the partial pressure of oxygen of the ambient air causes a diminution also of the tension of the oxygen of the alveolar air, which is the agent for the regulation of the absorption of gas by the organism. However, it has been proved through the experiments of Mosso, Talenti and Margaria that the effects of a low barometric pressure are due not only to the lowering of the partial pressure of oxygen but also to the lowering of carbon dioxide in the blood, which is the agent that causes stimulation of the nervous centers of respiration. The altitude of 14,433 meters above sea level, which Donati reached in his record flight, marks a limit that will be surpassed only by fliers using the air-tight cabin. An altitude of 12,000 or 13,000 meters above sea level can be considered the limit of safety in flying of long duration into great altitudes, provided the aviators breathe a mixture of oxygen.

Professor Gemelli, dean of the Catholic university of Milan, discussed the functions of the pilot from a psychophysiologic angle, in relation to the development of aviation. The position of the pilot during flying was first given attention. Orientation with relation to remote points, according to the work performed by Clapadere, Gemelli and Jaccard, is a complicated process in the verification of which memory, attention, comparison and discrimination take a part. The capacity of remote orientation is scanty in human beings. Orientation is lost during flying, such as is the case when one wanders into the wilderness or into the deserts and there is no specific sense or instinct to serve as a guide. The psychic processes use almost exclusively the information given by sight. The latter, however, has a limited field in aviation and errors and illusions are rather frequent. Sight gives orientation when a person moves at a certain speed in accordance to one's proper means of locomotion. At the speed and altitude at which one moves during flying, however, it fails to do so, and the more intense the degree of these two

factors the greater the difficulties related to orientation. That is the reason why orientation should be controlled by the use of proper mechanical apparatus and not by sight. In this connection the selection of candidates is based on their ability in using the necessary apparatus and giving a correct interpretation to the geographic, topographic and meteorological data by which the position of the airship in relation to the surface of the earth can be determined. Far different are the aptitudes required for pilots of military airplanes, especially pursuit planes. This is a problem which deserves especial consideration.

Zone of Quiet for Clinics

A session was recently held in the senate to discuss a law tending to control the noise caused by automobiles in the streets. Dr. Devoto of the Clinica del Lavoro of Milan pointed out the importance of such a law to the public welfare, especially the sick. He also pointed out how advisable it would be to surround clinics, hospitals and schools that are located in the city and cannot be moved to less noisy places by a zone of quiet.

JAPAN

(From Our Regular Correspondent)

Jan. 31, 1936.

Report on Changes in the Medical System

The Japan Medical Association has presented the long anticipated report on the reform of the general medical system in this country. The first necessity, the report says, is to secure complete unity of the governmental administrative units. The administrative medical setup at present is separated roughly into three large sections, under the control of the Home Office, the Communication Office or the Agricultural and Forestry Office. The lack of unity among those three offices has caused many controversies affecting the smooth working of the medical administration. The most urgent need is to authorize the Health Office to deal with all medical administration independently of the other offices. The second important problem is that of the relation between the family doctor and the patients, which is undergoing rapid changes as the social tide flows now this way and now that. The old system of the family doctor has many advantages over the new relation, which tends to convert the relation into that of a commercial transaction. To be humane and not to be inhumane is an important part in medical treatment. The family doctor is well acquainted with the domestic conditions of every family, which aids in promoting mutual understanding. Any family doctor always has been and always will be glad to give his time to patients when required. The patient has the right of free choice of physician and that fact has been convenient to those whose daily life has not been systematized. When a patient is temporarily unable to pay a bill, the family practitioner will wait without causing much trouble. Such an inseparable relationship naturally leads to doctors rather than government officials doing social relief work. Therefore the fundamental medical system should be based on the old system of the family doctor.

On the other hand, the development of various health unions is the present social tendency and the medical association must recognize their value and help their sound development. The most essential factor in those health bodies is a system permitting the free choice of physician by the members. Every new plan for medical treatment should be based on the original object instead of support through fees for treatment. For instance, the hospitals attached to medical colleges or universities should again be hospitals where clinical research is done without any idea of profit. The public or charity hospitals should treat indigent patients free; at present some of them are trying to raise more or less money by the treatment. At the same time, hospitals and clinics should be established and managed by medical men, to avoid the commercialization of medicine. Thirdly, the distribution of doctors should be regulated by the government, and where there is no doctor in remote places a government doctor should be available or the local community should have a doctor at its own expense and those doctors should be pensioned when they retire. In order to have its own doctor, the locality may send a medical student to college and pay his school expenses. Next in importance is the rationalization of medical fees, which should be on a different plane from commercial transactions. The medical fee should be estimated by the kind of sickness, that is, by the amount of medical labor, but the financial condition of the patients should be taken into consideration. As this fee has some relation to social economy and the national health, a standard fee is essential to avoid businesslike competitive methods. Those who are too poor to pay the medical fee are to be aided through relief societies.

It is no less important to readjust and control the various relief projects and bring them under the central authorities. At present they are independent and so the initial cost and the expense of their maintenance prevent them from being adequately equipped. Much more equipment is needed by the various public bodies where chief work must be preventive medicine. The idea of sanitation should prevail among the people in every home, and that is best brought about by the family physician. The promotion of school hygiene also is better achieved when every practitioner participates in it.

Next comes the problem of medicines and chemicals, which have recently increased greatly in number. The value of some of them is likely to be overestimated through the lack of proper institutes for testing them. A research department should be established to examine them and regulate their production and price; even the price of those manufactured in government factories is prone to be high when sold through middlemen or brokers.

Lastly, it is desirable for the government to establish a fixed policy in medical education. At present there is a tendency toward an overproduction of medical men. Every student after graduation from medical college should pursue clinical training for a reasonable period, and then those who wish to be specialists should be trained for a longer period in clinics. The medical association must have its own research institutes for this purpose.

The Increase in Physicians

The number of medical men in 1934 has been officially reported as 55,086, an increase of 2,224 over the previous year. In 1932 there were 50,069. Those in practice numbered 49,308, a decrease of 543 as compared with those in 1933. This decrease is believed to have been due to the revision of the medical law, which partly limited the establishment of new clinics. On an average a population of 1,383 had one practitioner; in cities 803, in smaller localities 2,082. The number of dentists was 18,998, while in 1933 it was 17,984, an increase of 1,014. Of these, 17,622 were in practice; 258 dentists to 10,000 population were in practice. The number of pharmaceutists was 23,283, an increase of 1,481, as compared with the previous year. The number of midwives was 58,270, and of nurses 102,921.

Increase in Beds for Lepers

The Home Office has announced a ten year program of raising the number of beds for lepers to 10,000. The present number of beds is 6,450 in all the country, while the number of lepers is over 15,000.

Personals

Dr. Minoru Sasaki, assistant professor in the Manchurian Medical College, has been appointed chief professor in the otorhinolaryngologic section of the Kyushu Imperial university.

Dr. I. Inada, dean of the medical college of the Manchurian Railway Company, was obliged to retire and Prof. Dr. S. Kubota will be the new dean.

Marriages

WILLIAM MARION HALL, Bay St. Louis, Miss., to Miss Ella Robinson of Centreville, February 19.

JOHN WILLIAM DRAPER JR. to Miss Mary Willcox Ayres, both of New York, February 7.

BERNARD LEE MELTON to Miss Marie Rhea Linsenmeyer, both of Phoenix, Ariz., in February.

HERMAN I. SWITKES, New York, to Miss Lillian Tepper of Washington, D. C., March 29.

BANNESTER LESTER HARBIN to Miss Jane E. Goodwin, both of Rome, Ga., February 11.

RAYMOND J. KENNEDY to Miss Bernice Elaine Sitar, both of Joliet, Ill., February 11.

JOSEPH H. PANKEY, Monroe, La., to Miss Vina Gallman of Rayville, January 18.

WALTER M. KRAUS to Miss Victoria Bowe, both of New York, Dec. 20, 1935.

RICHARD L. J. KEMEL to Miss Margaret Pennington, both of Chicago, March 23.

HARRY PARKS to Miss Sylvia Mendel, both of Atlanta, Ga., recently.

Deaths

Charles Jefferson Miller ⊕ professor of gynecology, Tulane University of Louisiana School of Medicine, New Orleans, died, March 21, of coronary thrombosis, aged 62. Dr. Miller was born in Winchester, Tenn., Feb. 9, 1874. He attended Terrill College and the University of the South, Sewanee, Tenn., and received his medical degree from the University of Tennessee Medical Department, Nashville, in 1893. After serving an internship at the Nashville City Hospital, he did postgraduate work in London and Berlin. In 1911 he was appointed professor of gynecology at Tulane University of Louisiana School of Medicine and later professor of abdominal surgery at the graduate school of medicine. From 1908 to 1911 he was secretary of the Section on Obstetrics, Gynecology and Abdominal Surgery, then known as the Section on Obstetrics and Diseases of Women, and chairman from 1911 to 1912 of the section, then known as Obstetrics and Gynecology, of the American Medical Association. He was a founder, past president, a member of the board of regents and a life member of the American College of Surgeons; member and past president of the American Gynecological Society, Southern Surgical Association and the Orleans Parish Medical Society, and president of the Southeastern Surgical Congress. Dr. Miller was a senior visiting surgeon to the Charity Hospital, New Orleans, and chief of the department of gynecology, Touro Infirmary, and formerly a member of the board of control of the Leper Home of Louisiana, now known as the United States Marine Hospital (National Leprosarium); he was also a member of the Medical Reserve Corps of the U. S. Army, and president of the Howard Memorial Library.

Charles Louis Chassaignac, New Orleans; Tulane University of Louisiana Medical Department, New Orleans, 1883; formerly professor of genito-urinary diseases and president of the New Orleans Polyclinic, and dean and professor of genito-urinary and rectal diseases after that school became the Tulane University Graduate School of Medicine; member of the House of Delegates of the American Medical Association in 1905, 1906 and 1910; member and past president of the Louisiana State Medical Society; past president and secretary of the Orleans Parish Medical Society; served as a member of the board of appeals of the draft board during the World War; for eight years superintendent of the Eye, Ear, Nose and Throat Hospital; at one time consulting surgeon to the Charity Hospital; editor of the *New Orleans Medical and Surgical Journal,* 1896-1922; translated from the French the monograph by Touatre on yellow fever; aged 74; died, March 21.

Edward Bradford Dench ⊕ New York; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1885; professor of otology, University and Bellevue Hospital Medical College from 1898 to 1930, at which time he became professor emeritus; member and past president of the American Laryngological, Rhinological and Otological Society; past president of the American Otological Society and the New York Otological Society; honorary member of the Royal Society of Medicine of London and the Austrian Otological Society; fellow of the American College of Surgeons; served during the World War; consulting aural surgeon to the New York Eye and Ear Infirmary; consulting otologist to St. Luke's Hospital and New York Orthopedic Dispensary and Hospital; aged 72; died, February 21, of cerebral hemorrhage.

Sylvester Richard Leahy ⊕ New York; Yale University School of Medicine, New Haven, 1905; at one time instructor in neurology, Columbia University College of Physicians and Surgeons, and instructor in psychiatry and clinical professor of psychiatry, University and Bellevue Hospital Medical College; member of the American Psychiatric Association; secretary and past president of the New York Society for Clinical Psychiatry; police surgeon; formerly attending neurologist to the Holy Family and St. Peter's hospitals; consulting neurologist to the Brooklyn State and Kings Park hospitals; director of the mental clinic, Catholic Charities, and associate visiting neurologist and psychiatrist, St. Vincent's Hospital; aged 53; died, January 29, of heart disease, in the Harkness Pavilion of the Columbia Presbyterian Medical Center.

Henry Ware Cattell, Burlington, N. J.; University of Pennsylvania Department of Medicine, Philadelphia, 1887; demonstrator of morbid anatomy at his alma mater, 1892-1897; director of the Ayer Clinical Laboratory, Pennsylvania Hospital, Philadelphia, 1899-1901; served during the World War; at various times pathologist to the Blockley Hospital, now the Philadelphia General Hospital, and the Presbyterian Hospital, Philadelphia; in 1929 delegate to the International Congress of Military Medicine and Pharmacy in London; editor of *International Clinics,* 1900-1903, 1910-1916, 1922-1932; editor of "Lippincott's Medical Dictionary" in 1910 and 1913; translator of "Ziegler's Special Pathological Anatomy," 1896-1897; aged 73; died, March 8, in the Veterans Administration Facility, Washington, D. C., of heart disease.

Arthur David Holmes, Detroit; McGill University Faculty of Medicine, Montreal, Que., Canada, 1889; member of the House of Delegates of the American Medical Association, 1911-1912; for many years trustee and past president of the Wayne County Medical Society; president of the Detroit Academy of Medicine, 1901-1902, vice president of the Mississippi Valley Medical Association, 1911-1912, and trustee of the Detroit Tuberculosis Society; fellow of the American College of Physicians; formerly professor of otology, rhinology and physical diagnosis, Detroit College of Medicine and Surgery; served during the World War; consultant to the Children's Hospital and the Woman's Hospital; aged 72; died, February 20, of cerebral hemorrhage.

Donald Putnam Abbott ⊕ Chicago; Rush Medical College, Chicago, 1910; associate clinical professor of medicine at his alma mater; intern at the Cook County Hospital, 1910-1911; did graduate work in Vienna in 1914; member of the Central Society for Clinical Research, Institute of Medicine of Chicago, and the Society of Internal Medicine of Chicago; served in the medical corps of the U. S. Army in France during the World War; author of the chapter on "Carcinoma of the Stomach" in Tice's System of Medicine; aged 51; attending physician to the Presbyterian Hospital, where he died, March 26, of pulmonary embolus following bronchopneumonia.

James Sproat Green ⊕ Elizabeth, N. J.; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1889; past president of the Medical Society of New Jersey and the Union County Medical Society; fellow of the American College of Surgeons; served during the World War; formerly member of the city board of health; consulting surgeon to St. Elizabeth Hospital, Elizabeth General Hospital, Elizabeth, Bonnie Burn Sanatorium, Scotch Plains, and the Rahway (N. J.) Hospital; aged 71; died, January 30, of carcinoma of the stomach.

James Clement Harkins, New York; University and Bellevue Hospital Medical College, New York, 1903; member of the Medical Society of the State of New York; at one time adjunct professor of pediatrics, Fordham School of Medicine; served during the World War; member of the medical advisory committee, Department of Hospitals, New York; served in various capacities on the staff of the Fordham Hospital; consulting pediatrician to St. Joseph's Hospital, Yonkers, N. Y.; aged 54; died, February 18, of bronchopneumonia and chronic myocarditis.

Cyrus Burns Craig ⊕ New York; Western Reserve University Medical Department, Cleveland, 1911; assistant clinical professor of neurology, Columbia University College of Physicians and Surgeons; member of the American Neurological Association and the Association for Research in Nervous and

Mental Disease; served during the World War; aged 52; consultant in neurology, Fordham Hospital, New York, and the Paterson (N. J.) General Hospital; associate medical director of the Neurological Institute, where he died, February 24, of carcinoma.

Edgar Bright Funkhouser, Trenton, N. J.; Jefferson Medical College of Philadelphia, 1900; member of the Medical Society of New Jersey; past president and secretary of the Mercer County Medical Society; member of the American Psychiatric Association; served during the World War; aged 66; senior resident physician at the New Jersey State Hospital, where he died, January 26, of coronary sclerosis.

Patrick Joseph Kennedy, Long Island City, N. Y.; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1911; member of the Medical Society of the State of New York; on the staffs of St. John's Hospital, Long Island City, Queens General Hospital, Jamaica, and the Manhattan Eye and Ear Hospital, New York; aged 49; died, January 21, in Daly's Astoria Sanitarium.

McCluney Radcliffe ✠ Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1882; for many years associated with the Wills Hospital and the Presbyterian Hospital in various positions; consulting ophthalmologist to the State Hospital, Norristown; trustee of Lafayette College, Easton, Pa.; aged 81; died, February 28, of pneumonia.

Charles Dun Pedrick, Glassboro, N. J.; Medico-Chirurgical College of Philadelphia, 1900; member of the Medical Society of New Jersey; past president of the Gloucester County Medical Society; served during the World War; for twenty-one years medical examiner of the public schools of Glassboro; aged 73; died, January 24, of cerebral hemorrhage.

Samuel Johnson Cogswell, Derry, N. H.; University of Vermont College of Medicine, Burlington, 1897; member of the New Hampshire Medical Society; past president of the Rockingham County Medical Society; health officer of Derry; on the staff of the Alexander-Eastman Hospital, East Derry; aged 60; died, January 18, of pneumonia.

Joseph Ellis Skaggs, Leavenworth, Kan.; University of Louisville (Ky.) School of Medicine, 1915; member of the Kansas Medical Society; president of the Leavenworth County Medical Society; formerly county coroner; aged 50; on the staff of the Cushing Memorial Hospital, where he died, January 20, of carcinoma.

Joseph Anthony Cooke, Meriden, Conn.; Yale University School of Medicine, New Haven, 1897; member of the Connecticut State Medical Society; health officer of Meriden; formerly mayor; aged 69; died, January 22, of bronchopneumonia, cerebral hemorrhage and hypertension.

Charlotte Hooper Phillips, New York; Columbia University College of Physicians and Surgeons, New York, 1930; member of the Medical Society of the State of New York; on the staff of the New York Infirmary for Women and Children; aged 31; died, January 23, of pneumonia.

Curtis Harrod Thomson, Seattle; University of Virginia Department of Medicine, Charlottesville, 1897; member of the Washington State Medical Association; secretary of the Washington State Medical Association; served during the World War; aged 61; died, March 7.

Fenton Blakemore Whiting, Richmond Beach, Wash.; Cooper Medical College, San Francisco, 1891; member of the Washington State Medical Association; fellow of the American College of Surgeons; aged 69; died, January 15, of hypertension and cerebral hemorrhage.

Harold Walter Longwell, Avoca, N. Y.; University of Buffalo School of Medicine, 1929; member of the Medical Society of the State of New York; health officer; aged 33; died, January 23, in a hospital at Bath, of cerebral hemorrhage and chronic nephritis.

Daniel Traverso, Belmar, N. J.; University of Arkansas School of Medicine, Little Rock, 1926; member of the Medical Society of New Jersey; aged 36; on the associate staff of the Fitkin Memorial Hospital, Neptune, where he died, January 28, of lobar pneumonia.

Frank Brouwer, Toms River, N. J.; Jefferson Medical College of Philadelphia, 1894; member of the Medical Society of New Jersey; formerly county coroner; on the staff of the Paul Kimball Hospital, Lakewood; aged 65; died, January 24, of arteriosclerosis.

Edward Buckley Campbell ✠ Albany, N. Y.; Albany Medical College, 1918; instructor in otolaryngology at his alma mater; on the staffs of the Child's Hospital and the Albany Hospital; aged 45; died, January 22, of pneumonia.

Thornton Austin Moore, Holly Springs, Miss.; Memphis (Tenn.) Hospital Medical College, 1903; member of the Mississippi State Medical Association; aged 53; died, January 17, in Memphis, Tenn., of coronary thrombosis.

Percy J. Farmer ✠ St. Louis; Washington University School of Medicine, St. Louis, 1899; on the staffs of the Missouri Baptist, De Paul and the City hospitals; aged 57; died suddenly, February 9, of heart disease.

Kalman S. C. Von Haitinger, Clifton, N. J.; American College of Medicine and Surgery, Chicago, 1905; on the staff of the Beth Israel Hospital, Passaic; aged 53; died suddenly, January 19, of acute cardiac dilatation.

Ulysses Grant Murrell, Wilmington, Ohio; Miami Medical College, Cincinnati, 1896; at one time state senator, and registrar of vital statistics, state board of health; aged 67; died, February 11, of cerebral hemorrhage.

Nicklaus Albert Rennison, Waucedah, Mich.; State University of Iowa College of Medicine, Iowa City, 1934; physician at the CCC Camp, Sturgeon River; aged 29; died, Dec. 19, 1935, of acute pulmonary edema.

Benjamin Thomas Bryant, Tyler, Texas (licensed in Texas under the Act of 1907); member of the State Medical Association of Texas; county health officer; aged 68; died, January 9, in a local hospital, of heart disease.

Frederick Atkins Moore, Chicago; University of West Tennessee College of Medicine and Surgery, Memphis, 1916; aged 46; died, Dec. 25, 1935, of carcinoma of the intestine with metastasis to the liver.

Sidney Dale Porter ✠ Baton Rouge, La.; Tulane University of Louisiana Medical Department, New Orleans, 1894; on the staff of the Baton Rouge General Hospital; aged 61; died, February 8.

Thomas Hinckley Willard ✠ New York; Albany (N. Y.) Medical College, 1887; aged 73; died, January 25, in the Doctors Hospital, of bronchopneumonia and arteriosclerotic heart disease.

Clinton Roath ✠ Los Angeles; California Eclectic Medical College, Los Angeles, 1911; aged 52; on the staff of the California Hospital, where he died, January 26, of carcinoma of the stomach.

Pasquale Leonard Turi, Jersey City, N. J.; Regia Università di Napoli. Facoltà di Medicina e Chirurgia, Italy, 1911; aged 49; died, January 29, in St. Francis Hospital, of agranulocytosis.

Hazel Belle Krumhar, Cleveland; Woman's Medical College of Pennsylvania, Philadelphia, 1935; aged 35; intern at the City Hospital, where she died, January 22, of pneumonia.

John R. Boyd ✠ Oakvale, W. Va.; College of Physicians and Surgeons, Baltimore, 1893; for many years mayor; formerly justice of the peace; aged 71; died, January 20, of heart disease.

James H. Tinsley, Willard, Mo.; Ensworth Medical College, St. Joseph, 1887; aged 76; died, January 18, in Cave Springs, of influenza and pneumonia.

Ira Abbey Wheeler ✠ Colfax, Calif.; California Eclectic Medical College, San Francisco, 1894; aged 74; died, January 2, of arteriosclerosis and heart disease.

James William Hanan, Kansas City, Mo.; College of Physicians and Surgeons, Keokuk, Iowa, 1881; aged 82; died, January 7, of chronic myocarditis.

Pascal Whitney McConnell, Winona, Minn.; Rush Medical College, Chicago, 1900; aged 65; died, January 17, of angina pectoris and chronic myocarditis.

Moses Alexander Morrison, Fresno, Calif.; University of Nashville (Tenn.) Medical Department, 1897; aged 74; died, January 7, of coronary disease.

William Burt Reed ✠ Rochester, N. Y.; University of Buffalo School of Medicine, 1896; aged 66; died, January 19, of chronic myocarditis.

Burr C. Thomas, Farmington, Mich.; Detroit College of Medicine, 1895; aged 65; died, January 30, of carcinoma of the stomach.

Nettie D. Morey Errant, Chicago; Woman's Medical College, Chicago, 1885; aged 79; died, January 19, of bronchopneumonia.

Frank Woodland Taylor, Oakland, Calif.; Halifax Medical College, Halifax, N. S., Canada, 1900; aged 64; died, January 2, of uremia.

Raymond E. Butz ✠ York, Pa.; Medico-Chirurgical College of Philadelphia, 1898; also a minister; aged 71; died, January 22.

Eldridge G. McAlvin, Haleburg, Ala. (licensed in Alabama in 1892); aged 92; died, January 24, of pneumonia.

Correspondence

"COPPER AND PIGMENTATION OF SKIN AND HAIR"

To the Editor:—The editorial "Copper and Pigmentation of Skin and Hair" (THE JOURNAL, February 22, p. 629) is the subject of this communication. In a discussion at the meeting of the Illinois Medical Society in 1933 (*Illinois M. J.* **64**:80 [July] 1933) I described the case of a woman, aged 21, seen by Dr. Cleveland White and myself, in whom darkly pigmented moles appeared on the skin following copper therapy. The patient, who had a mild anemia, received ferric ammonium citrate 3 Gm. and copper sulfate 15 mg. daily for four weeks. The pigmentation appeared two weeks after treatment was begun. The lesions consisted of brown and black pigmented macules and papules varying from the size of a pinpoint to the size of a small pea. They were most numerous on the neck but also occurred on the face, the upper part of the trunk, and the extremities.

I saw the patient today, and there has been no tendency for the moles to fade or disappear. The moles on her face (eight in number) were very annoying at first, but she has since become accustomed to them. The patient, who is a registered nurse, is absolutely certain that the pigmentation was a direct result of the copper and iron therapy.

In view of the experimental evidence presented in the editorial, it seems that copper was instrumental in the production of the pigmentation in this patient. If this observation is correct, the indiscriminate use of copper therapy may lead to some embarrassing medicolegal problems.

HOWARD L. ALT, M.D., Chicago.

TREATMENT OF ALCOHOLISM WITH CARBON DIOXIDE-OXYGEN INHALATION

To the Editor:—I read with interest the paper of Newman and Card (THE JOURNAL, February 22, p. 595), in which is reported the experimental investigation of the striking effects obtained by Robinson and myself in the treatment of acute alcoholism with 10 per cent carbon dioxide and 90 per cent oxygen inhalation. In order that the reading medical public may be made aware of the actual value of their report, it should be pointed out that the facts on which they base their conclusion are subject to the following criticisms:

1. In reviewing the literature readily available references contradicting their opinion are not mentioned. Barach is quoted as stating that the lethal dose of alcohol for rabbits was the same in an atmosphere of oxygen as it was in air. They do not mention that Palthe (Alcohol Poisoning, *Deutsche Ztschr. f. Nervenh.* **92**:79-100, 1926) found that the inhalation of oxygen prevented death in rabbits that had been given alcohol in doses that were lethal to control animals.

2. Barach (Action of Oxygen in Counteracting Alcoholic Intoxication, Am. J. Physiol. **107**:610-615 [March] 1934) is only partially quoted. They do not mention that he gives evidence which in his own words "suggested that the inhalation of oxygen counteracted to some extent the effects of alcohol."

3. Their number of experimental subjects was extremely small, consisting only of two human beings and three dogs.

4. They ran no controls whatever to check their experimental results.

5. Neither of their human subjects was sufficiently intoxicated to produce much more than an odor of alcohol on the breath (Turner, R. G.: Blood Alcohol and Its Relation to Intoxication in Man, *Proc. Soc. Exper. Biol. & Med.* **32**:1548 [June] 1935). Turner states that, in general, intoxication is not noticeable in man until the blood alcohol concentration is greater than 0.2 per cent. In Newman and Card's human subjects at the onset of the administration of carbon dioxide and oxygen inhalation the blood alcohol concentration was only 0.2 per cent in the first case and considerably less in the second. In our cases the lowest blood alcohol concentration was 0.338 per cent and the highest 0.654 per cent. It is quite possible that at these higher levels the effect of carbon dioxide and oxygen inhalation is much more marked in human beings than at the low level reported by Newman and Card.

6. They attempt to draw clinical conclusions from dogs—drunken canines—though they state specifically that they aren't interested in the clinical point of view.

7. They do not take into account sufficiently the possible effect of carbon dioxide and oxygen inhalation on intracellular oxidation (Wright Samson: Applied Physiology, ed. 5, New York, Oxford University Press, 1935).

The title of the paper and its conclusions are misleading in that they suggest that a rational basis for the use of carbon dioxide and oxygen inhalation in acute alcoholism does not exist. The subject deserves more intensive study before the shadow of doubt is cast on the value and efficacy of this therapeutic procedure.

SYDNEY SELESNICK, M.D., Boston.

NERVOUS COMPLICATIONS FOLLOWING SPINAL ANESTHESIA

To the Editor:—The report on nervous complications following spinal anesthesia by Brock, Bell and Davison (THE JOURNAL, February 8) leads us to suggest a slight change in the technic of spinal anesthesia which we are convinced is of definite value.

The modification that we advise has been employed by us in more than 600 low spinal anesthesias and apparently has afforded the following advantages: 1. It limits the effect of the anesthetic to the lower part of the spinal cord, thereby preventing fall in blood pressure and vomiting, which up to the time we began the technic now employed had been a rather frequent and disturbing factor. 2. Localization of the anesthesia makes it possible to lessen by about one third the amount ordinarily used. 3. There have been practically no nervous complications following spinal anesthesia obtained in this manner. All anesthetics in our group were for low operations such as external urethrotomy, transurethral resections of vesical neck obstructions, and fulguration of extensive tumors of the bladder. Higher and satisfactory anesthesia might be obtained by the same technic except that the anesthetic in such cases should be injected at a higher point. A preparation of procaine hydrochloride with strychnine sulfate known as spinocaine was the only type anesthetic used. This preparation is lighter than the spinal fluid, which feature is most essential to our technic. After the needle has been inserted into the spinal canal and the spinal fluid begins to flow the table is tilted to lower the patient's head 15 degrees before the anesthetic is injected. Then the syringe containing the anesthetic is attached to the needle and an equal volume of spinal fluid is drawn into the syringe and mixed with it. Then two thirds of this mixture is injected into the canal and again some fluid is withdrawn, this time only about one-half the volume. This mixture is then injected into the canal. We have attributed our lack of nervous complications to this diluting admixture of spinal fluid with the anesthetic before the injection. The solution reaching the nerve roots is thereby rendered less concentrated and hence less irritating than if it were not so diluted.

The lowering of the head we are convinced affords a valuable method of localizing the anesthetic to the lower part of the

spinal canal. When the head is lowered the mild venous congestion causes an increase in intracranial pressure, which prevents any flow of anesthetic toward the head after the injection. The anesthetic, being lighter than spinal fluid, tends to flow toward the lower end of the spinal canal.

Soon after the adoption of this plan we thought it was probably only a coincidence that we no longer saw the reactions that we hitherto had attributed to idiosyncrasies and so on. The striking features incident to this technic were the exceedingly small number who vomited and the maintenance of satisfactory blood pressure. Usually within about ten minutes anesthesia is complete. If not, perhaps not more than five minutes' additional waiting may be required.

If Drs. Brock, Bell and Davison will try this technic we feel certain that they soon will have less fear of nervous complications and less nausea and vomiting during spinal anesthesia.

EDGAR G. BALLENGER, M.D. OMAR F. ELDER, M.D.
HAROLD P. McDONALD, M.D. Atlanta, Ga.

CONGENITAL DEFECTS

To the Editor:—The interesting article regarding congenital defects appearing in THE JOURNAL, February 8, page 457, may cause some to assume that there were no previous data regarding the greater frequency of the occurrence of congenital defects among siblings. Maude Abbott has published some statistics regarding this increased frequency (in Osler: Modern Medicine, ed. 3, Philadelphia, Lea & Febiger **4**:626) and I found the same in a small group (The Causation and Prevention of Congenital Heart Disease, *Arch. Int. Med.* **48**;721 [Nov.] 1931). Dr. Murphy has nevertheless presented some new statistics of value.

WILLIAM D. REID, M.D., Boston.

TOXICITY OF BORIC ACID

To the Editor:—An American woman, aged 45, and weighing about 135 pounds (61 Kg.), was operated on for prolapse of the uterus and bladder and rectocele. At 9 p. m. the same day, 1 quart (1 liter) of saline solution was ordered given subcutaneously as she had lost some blood, although she was in an entirely satisfactory condition. Almost two hours was consumed in taking the solution. When the nurse returned to the supply room she discovered that the patient had been given 1,000 cc. of 2 per cent boric acid solution, being a total of about 20 Gm. (310 grains). Nothing whatever occurred during the night that indicated she was suffering from ill effects caused by the solution.

Early the following morning, examination of the urine for boric acid showed a very marked reaction, both by the sulfuric acid alcohol method and by the turmeric paper method. At 4 p. m. and at 8 p. m. the same day, specimens were taken and they were markedly positive by both methods. On the second day, examinations of the urine made at 4 a. m., 8 a. m. and 4 p. m. were all positive but not so marked; specimens were concentrated, 75 per cent. On the third day, specimens taken at 4 a. m. and at 4 p. m. showed positive by the sulfuric acid alcohol method and negative by the turmeric paper method, although the concentration was 75 per cent. On the fourth day, only a trace was shown by the sulfuric acid alcohol method and a negative reaction by the turmeric paper method. On the fifth day, specimens were negative by both methods.

Never at any time did the patient have more than a slight trace of albumin and a few casts in the urine. As far as could be observed, it did not affect her in any way. She had no symptoms of gastro-intestinal irritation such as cramps, diarrhea or nausea except that she did vomit once, four hours after the administration. As this was the first postoperative night she may have vomited from the anesthetic.

Dr. R. W. Webster in "Legal Medicine and Toxicology, page 405, reports that death has occurred in three and one-half hours but usually does not happen for a few days after the intake of these substances. He cites the following:

> In the cases of McNally and Rust from three to six grams proved fatal to six infants, while fifteen grams of boric acid was fatal to an adult and Birch reports the death of an infant who had consumed one and a half drachms (5.6 cc.) of sodium borate and boric acid in the form of honey of sodium borate and glycerin of borax, while Potter describes a case of fatal borax poisoning in an adult from the taking of something over an ounce of borax in mistake for a saline laxative.

W. L. BROWN, M.D. J. L. MURPHY, M.D.
C. P. BROWN, M.D. El Paso, Texas.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

TYPHOID MENINGITIS

To the Editor:—Can you give me some information relative to typhoid meningitis? In all available literature I find little reference to such a condition. Mrs. J. J., aged 30, mother of five children, was taken ill about September 15 with lassitude, pain in the back and legs and occasional bouts of fever. This persisted until I first saw her on September 27, at which time she was comatose. At no time had she complained of headache, visual disturbances, nausea or abdominal pain or diarrhea. I did a lumbar puncture, September 28. The fluid was bloody and under decreased pressure. Laboratory reports for spinal fluid showed cloudiness and gram-positive bacilli on a stained slide preparation, a colloidal gold curve of 0011110000, Pandy's reagent negative and ammonium sulfate reagent negative. A Widal test was positive on a blood specimen. A blood culture report has not been returned. For the last ten days (since September 28) the patient has been in coma except for periods of an hour or two on the second, fifth and eighth days. Neck rigidity appeared on the second day of coma. The Babinski, Chaddock and Oppenheim signs were noted as positive on the fourth day in coma. The abdomen was soft. No eye signs have been noted. Repeated lumbar punctures have shown decreased spinal fluid pressure. Using undiluted spinal fluid in the counting chamber, 850 cells were estimated per cubic millimeter. A specimen obtained two days later (September 30) showed cells too numerous to count. The fluid was undiluted. A white blood count has been consistently around 8,900. The urine has contained a moderate amount of albumin but no casts, bacterial or blood cells. The temperature has ranged between 99 and 103 F. Three days ago the patient emerged from coma and has been rational since. Neck rigidity and pain in the back are still present. Two days ago she had diarrhea for a few hours, which has not been noticed since. May one expect sequelae from the meningitis if such a diagnosis is correct? About how much more intestinal involvement may one expect? What are the incidence, prognosis and mortality of typhoid meningitis? What are common sources of infection, other than drinking water and milk?

F. G. Slattery, M.D., Clare, Mich.

ANSWER.—True typhoid meningitis is extremely rare. When it occurs, the spinal fluid is purulent and the typhoid bacillus may be isolated from it. It is practically certain that a patient with this condition will not survive. Sometimes, in the course of an attack of typhoid, meningitis develops which is found to be due to other organisms than Bacillus typhosus. The meningococcus and also the tubercle bacillus have been reported as causative agents under such circumstances.

Serous meningitis in typhoid occurs more often than true typhoid meningitis. In the former, the condition is attributed to the action of the toxins of the typhoid bacilli. The organisms themselves are not found in the spinal fluid in this type of meningitis, and a fatal termination to the disease is not necessarily imperative.

Meningism is much more common in typhoid than any form of meningitis. Although symptoms suggestive of meningitis are present, including some stiffness of the neck, there are no pathologic changes in the spinal fluid to substantiate the presence of meningitis.

Since the laboratory report on the spinal fluid of the patient states that the organism found was gram positive, it would seem that the bacillus could not be the causative agent of typhoid, which is gram negative. As the colloidal gold curve was normal and the globulin tests negative, one unacquainted with the patient might wonder whether the gram-positive

bacillus was not a contamination. If there is no true meningitis but merely meningism, the cell count reported might possibly be explained by the presence of blood in the spinal fluid.

It does not seem likely that the patient has typhoid meningitis; neither the laboratory report nor the improvement in her condition supports such a diagnosis. Several standard textbooks on medicine quote Cole, who collected thirteen cases of typhoid meningitis from the literature; all of these patients died.

If the patient's meningeal symptoms can be explained on the basis of meningism, no sequelae need be expected.

Two weeks is too early in the course of typhoid to make an estimate with regard to the extent of intestinal involvement that may be expected.

Sources of typhoid infection in addition to drinking water and milk may be the use of contaminated water for washing milk cans, uncooked vegetables or fruits. Uncooked vegetables, such as celery and radishes, may be contaminated if not thoroughly cleansed; contact with typhoid patients or typhoid carriers may result in transmission of the disease. Flies from outhouses may act in a mechanical way in carrying infection to uncooked foods, or to prepared foods after they are placed on the table for eating.

PAIN IN AMPUTATION STUMP IN PATIENT WITH MORPHINE ADDICTION

To the Editor:—A man, aged 58, has been suffering from severe burning pain in the stump of the right leg, radiating up the course of the nerve trunks, for six months since amputation at the junction of the upper and middle thirds of the tibia for gangrene of the foot, which originated from an injury to the right great toe. Because of chronic myocarditis, the amputation was done under local anesthesia. There is much swelling of the stump and the thigh at times, but there are no other signs of vascular disturbance and this is relieved by hot applications and diathermy. The blood Wassermann test is negative. Repeated blood Wassermann and Kahn tests are negative. The spinal fluid Wassermann test is negative and the colloidal gold test is negative. The blood sugar is 154 mg. per hundred cubic centimeters. Roentgen examination of the tibia and fibula shows evidence of a low grade periostitis. The urinalysis shows one plus albumin, few epithelial casts and granular casts and is otherwise negative. Red blood cells number 4,100,000; hemoglobin is 70 per cent; white blood cells number 8,900; polymorphonuclears, 65 per cent; lymphocytes, 32 per cent; eosinophils, 1 per cent; monocytes, 2 per cent. The basal metabolism rate is plus 5. It requires 1 or 2 grains (from 0.065 to 0.13 Gm.) of morphine daily to relieve the pain. The patient has gone for a period of six weeks without any opiates of any kind but experienced much pain. Examination of the stump reveals atrophy of the stump and retraction of the tissues. There are no palpable nodules (neuroma) present. Could it be possible that the nerves were not cut off high enough and that they have been caught up in the scar tissue? In view of the fact that the patient is unable to stand another amputation at the present would it be advisable to inject the nerves with alcohol and would this relieve the pain? What would be the best therapy in treating the patient to get him off the morphine, since he has already become an addict, if the injection of the nerves will relieve the pain? What would probably be the cause of the swelling of the stump and thigh since there is no other evidence of vascular disturbance. Antisyphilitic treatment has been tried in the face of a negative Wassermann reaction but has not seemed to do any good. Any suggestions regarding the etiology and therapeutics in this case would be greatly appreciated. Please omit name.

M.D., Georgia.

ANSWER.—It is difficult to come to any definite conclusion in regard to the diagnosis in this case because changes that go with such diagnoses as thrombo-angiitis obliterans, other peripheral vasomotor disease or diabetes are not described. It is necessary to determine the presence of a pulse in the popliteal space of the right knee, and dorsalis pedis and popliteal pulse in the left lower extremity, as well as to make oscillometric studies of the vessels of the thigh and skin temperatures.

One of two conditions may be responsible for this picture. The evidence seems to point to a thrombo-angiitis obliterans of the vessels of the right lower extremity and that the patient continues to have symptoms of activity in the stump and thigh because he has rest pain in the stump as well as swelling of the stump and thigh. The periostitis is suggestive of some infection. The other condition is diabetes mellitus. The evidence here presented does not warrant such a diagnosis. The following regimen is suggested: absolute rest in bed; elevation of the stump and thigh; several injections (three or four) of typhoid and paratyphoid vaccine intravenously, with careful determinations of the skin temperature of the right stump and thigh as compared with the left leg and thigh, both before and after the injection. This will indicate the amount of vascular dilatation that takes place in the stump as well as relieving pain in the stump.

If pain persists, lumbar sympathectomy, chordotomy or injection of the peripheral sensory nerves with alcohol above the stump may be considered. The patient should take a gallon of Ringer's solution daily by means of a Rehfuss tube.

The treatment of the morphine addiction should not be attempted until the treatment of the difficulty with the right stump and thigh has been completed. The following regimen is suggested: gradual daily reduction of the morphine; 12 to 15 units of insulin four times in twenty-four hours; sedation for a good night's rest with amytal or phenobarbital; large quantities of liquid and a highly caloric and palatable diet, and sugar solutions by mouth or vein for any symptoms of hypoglycemic shock that may appear following the insulin. This regimen should be carried on daily for from seven to ten days.

INTRAPLEURAL PRESSURE

To the Editor:—1. In a healthy, normal pleural cavity what is the greatest negative pressure attained (marked inspiration with the glottis closed)? 2. What is the greatest possible intrapleural pressure (marked expiration on coughing with the glottis closed)? 3. What is the ordinary variation in intrapleural pressure (ordinary inspiration and expiration with the glottis open)? Please omit name.

M.D., New York.

ANSWER.—1. Forcible inspiration increases the negative pressure within the pleural cavity whether the glottis is open or closed. There is a greater negativity with the glottis open; in fact, so much that the water of the manometer would be aspirated into the chest cavity at times, or beyond a readable point on the water manometer, which is usually about 20 cm. of water. The extent of negativity could reach as high as 30 mm. of mercury, or about 30 + cm. of water. With the glottis closed, however, there is little expansion of the lung, but there is a falling of the intrapulmonary pressure from rarefaction of air, and the intrapleural pressure falls with it, but to the extent only of a few millimeters of mercury or centimeters of water.

2. As stated, the usual water manometer on a pneumothorax machine measures about 20 cm. of water pressure, and here again the positive pressure would be so great under the conditions stated, namely, a marked expiration on coughing with the glottis closed, that the water manometer would be exploded; but when measured in mercury it would be something like 30 mm. or higher, depending on the force of the cough.

3. The ordinary variation of intrapleural pressure on ordinary inspiration and expiration with the glottis open, on inspiration, is from minus 6 cm. of water to minus 10 cm. of water, but the variation may be as low as minus 4 cm. of water to minus 20 cm. of water, at the height of inspiration. On expiration, the manometer would read from minus 4 to minus 8 cm. of water, and sometimes may be as low as minus 2 to minus 12 cm. of water.

The question reads for the reading of pressure in a healthy, normal pleural cavity; but the greatest clinical experiences in the reading of pressure within the pleural cavity are made under pathologic conditions, pulmonary tuberculosis in the main, in patients who come for treatment of their condition by means of artificial pneumothorax. Still, the pressure would not vary much from the normal, healthy pleural cavity.

TREATMENT OF CHLORINE GASSING

To the Editor:—The Committee on Hazards from Use of Chemicals in Water Works Plants of the American Water Works Association is making an investigation of first aid treatments for victims of chlorine gassing, with a view to making the following recommendations for treatments: (1) a simple method of first aid that can be used even in the smallest water works plant; (2) the most effective method of first aid regardless of how expensive the equipment may be.

H. H. GERSTEIN, Sanitary Engineer, Chicago.

ANSWER.—1. A simple method of first aid, which can be used even in the smallest water works plant:

First aid to patients gassed with chlorine may be applied in the absence of equipment if the following principles are considered: (*a*) Remove the patient from the toxic atmosphere promptly; (*b*) loosen all constricting clothing about the neck; (*c*) keep the patient absolutely quiet in a recumbent position; do not allow him to move, regardless of how free from symptoms he may appear a few minutes after gassing; (*d*) conserve body heat by keeping the patient warm with blankets, applying artificial heat in the form of hot water bottles, if available; (*e*) stimulants in the form of hot coffee and brandy are useful; (*f*) obtain the services of a physician as soon as possible.

These simple instructions should be posted about water purification plants in which liquid chlorine is used. The necessity for having a satisfactory gas mask available wherever chlorine cylinders are handled is obvious.

2. The most effective method of first aid, regardless of how expensive the equipment may be:

Wherever the hazard justifies, there should be a specially equipped safety or first aid room, and personnel trained in

caring for gas casualties should be available. Individuals gassed with chlorine should be carried to the first aid room immediately. In addition to the measures outlined in paragraph 1, facilities should be available for the administration of oxygen and venesection.

Oxygen should be administered in all cases. Do not wait for cyanosis to develop. The administration of oxygen will often prevent cyanosis and relieve the pain of deep inspiratory effort. Special oxygen masks or tents should be available for this purpose.

Venesection is an extremely valuable measure and should be performed early on all patients who have been exposed to heavy concentrations of chlorine. Its early use will often prevent the development of edema of the lungs, and if used later it often relieves pulmonary edema and cardiac embarrassment. The early intravenous administration of dextrose or physiologic solution of sodium chloride given slowly in moderate amounts may be combined with venesection to combat shock and reduce the viscosity of the blood. Bleeding is contraindicated, however, in those cases which have reached the gray stage of anoxemia with pallor, collapse, and rapid, thready pulse.

Drugs are of secondary importance in the treatment of chlorine gas poisoning. Some authorities advise morphine for the pain and excitement that follow soon after injury, but it is agreed that morphine is contraindicated in the presence of pulmonary edema and respiratory embarrassment. Atropine and epinephrine are without effect, and neither digitalis nor strychnine has been of much benefit. Brandy is useful as a stimulant. Caffeine in the form of hot coffee or hypodermic injection of caffeine with sodium benzoate is of value. Hypodermic injection of camphor in sterile oil is useful in serious cases.

The importance of early and efficient treatment of chlorine gassing should be constantly stressed, since the critical period is usually short, and most patients who live for twenty-four hours survive.

TREATMENT OF SYPHILIS

To the Editor:—I am interested to learn when it would be safe to discharge a patient with syphilis as cured. The patient came under another physician's care in October 1933 with a chancre, diagnosed by dark field and positive Wassermann reaction. The physician administered then twenty intravenous injections of neoarsphenamine and thirty intramuscular injections of sodium bismuth thioglycollate. The Wassermann reaction became negative. After a short rest of two weeks, twelve more injections of neoarsphenamine and twenty of the bismuth compound were given. After another rest of one month twelve more injections of neoarsphenamine and twenty of the bismuth compound were given. A lumbar puncture was done and the cerebrospinal fluid examined. The cell count, protein, colloidal gold and Wassermann tests were all negative. To play doubly safe, eight more injections of neoarsphenamine were given, plus eight injections of sodium bismuth thioglycollate and twelve of insoluble bismuth, the latter at weekly intervals. The patient is eager to take all the treatment to avoid any possibility of recurrence. His blood Wassermann reactions are repeatedly negative. All together, he has been treated almost constantly for eighteen months. Is it safe now to dismiss the patient as cured? Kindly omit name. M.D., Nebraska.

ANSWER.—The best time for the treatment of syphilis is to begin immediately after an early diagnosis by dark field examination. At this early seronegative stage a permanent cure can be attained in a high percentage of infected individuals. This percentage decreases with delay in the treatment.

A cure requires at least eighteen months of continuous therapy with arsphenamine and compounds of bismuth or mercury. Twenty doses of arsphenamine and twenty doses of bismuth salicylate in from forty to fifty weeks are needed to assure permanent noninfectiousness. Thirty injections of the arsenical and from thirty to sixty injections of a bismuth compound in the first two years should be the therapeutic objective to prevent recurrence and late manifestations of syphilis. With such treatment, involvement of the aorta and central nervous system, which are the two most serious forms of late syphilis, can be prevented as well as other forms of latent syphilis. A "cure" will be attained of about 90 per cent of patients with a primary lesion. In latent syphilis the length of time necessary for a cure is more than eighteen months to two years.

This patient has received a total of fifty-two injections of neoarsphenamine and ninety injections of bismuth in eighteen months. The dosage per injection is not mentioned. With an average dosage this is sufficient to prevent late manifestations, and it exceeds the quantities recommended by syphilologists at present. The Wassermann test and spinal puncture should be repeated every year, and a short course of treatment of ten doses of arsphenamine and ten of bismuth or mercury compounds each year for three years would be advisable.

BASS-JOHNS BLOOD COUNTING CHAMBER

To the Editor:—Please send me directions for the use of a Bass-Johns blood counting chamber. P. E. PARKER, M.D., Johnson City, Tenn.

ANSWER.—The Bass-Johns blood counting chamber is described in the book on Laboratory Diagnosis by Bass and Johns, Rebman Company, 1917.

The counting chamber consists of a heavy object slide on which a small oblong counting plate is cemented. The Bass ruling in the middle of the counting plate consists of a square of 2 mm. size. This is divided into ten 0.2 by 2 mm. rectangles for counting leukocytes. For counting erythrocytes there are superimposed on the ruled space at each corner and in the center five 0.2 mm. squares, each further divided into sixteen 0.05 mm. squares. The cubic contents of the entire ruled space, 0.1 mm. deep, is 0.4 cu. mm. The total cubic contents of the five large squares is 0.02 cu. mm.

Pipets for dilution are used as with any other counting chamber. All the leukocytes in the ten rectangles are counted. Multiply by 250 to get the number per cubic millimeter when a dilution of 1 to 100 has been used. If a 1 to 20 dilution is used, multiply by 50. In counting the erythrocytes, there are five large squares each ruled into sixteen small squares. The red cells in all five large squares are counted. The total number in the five large squares multiplied by 5,000 equals the number of cells per cubic millimeter when a dilution of 1 to 100 is used.

PYODERMIA AND IRRITANT DERMATITIS

To the Editor:—There is no dermatologist near and I am sending a patient's picture. Lesions began about seven weeks ago as small pimples and drained pus. I did not see him until about three weeks ago. Mercurochrome was just put on the lesions. When I saw the patient the skin was scablike and the nodules ran pus. He had some pain. Wet dressings were applied and the skin came off; the lesions cleared up with the exception of nodules as in the picture. Today he has pain and they are coming out again. The patient has had one application of x-rays but I think there is too much inflammation to continue. I could not get a good potassium hydroxide mycelium test. The lesions are limited to the dorsum of the forearm from the wrist to the elbow and do not go any further. Bullae, erythema multiforme and blastomycosis or some fungus may be in order. Is it blastomycosis? I am using potassium iodide and sulfur dioxide pastes. Can you tell me what this is? M.D., Colorado.

ANSWER.—From the description and photograph, this man apparently has a pyodermia that is superimposed on an underlying "irritant dermatitis." The eruption is sharply defined over the dorsum of the hands and at the elbows and suggests a reaction to some external irritant, which might be a chemical, household or occupational contact. The possibility of a plant irritant from contact with foliage in the man's environment has to be considered.

The clinical picture as shown in the photograph does not simulate blastomycosis. Erythema multiforme might be an underlying condition on which the pyodermia is superimposed. In erythema multiforme, however, other lesions would be present about the trunk, face and possibly the anogenital area.

The ingestion of drugs should be ruled out and the surface infection treated with mild antiseptic wet dressings, such as aluminum subacetate solution, 1:16, or 1:1,000 merthiolate or 1:5,000 metaphen solution. After the acute dermatitis has subsided, the use of 2 per cent ammoniated mercury ointment, gradually increasing to 5 per cent, can be used. Local infected areas may be painted with 3 per cent aqueous gentian violet solution. The patient's general condition should be built up with hematinics and vitamin A and B by mouth.

DIAGNOSIS OF DEATH FROM DROWNING

To the Editor:—A girl, aged 19 years, was found floating in a creek near here. She left her home at 9 a. m. and was found about 5 p. m. the same day. Rigor mortis had set in. Would the fact that she was floating preclude the possibility of her having drowned as the cause of death? Could a person be drowned and immediately, say within an hour, rise to the surface and continue to float until found? What factors determine how soon a drowned person rises to the surface? I will appreciate your answering this as promptly as you possibly can. Please omit name if published. M.D., Texas.

ANSWER.—The fact that the body was floating when found would not exclude death from drowning. The specific gravity of the human body immediately and soon after death would be practically the same whether death has resulted from drowning or from some other cause. Drowning per se can have no special influence on the floatage of a dead body.

Generally speaking, the body of a drowned person would not rise to the surface within say one hour after drowning and continue to float for some hours afterward, but such a possibility under certain circumstances cannot be denied. In the case in

question was the body buoyed up by clothing? How deep was the water and was the depth uniform and without any shallow places? Was there a strong current? Were there any stakes or other objects in the water that might support the body? Occasionally dead bodies of women have been found floating a few inches under the surface while some of the clothes rested on the surface of the water.

Obviously a variety of factors come into play in the rising to the surface of a human body after submersion in water: the depth, specific gravity, motion of the water; the amount of fat on the body and its clothing as well as internal conditions that may affect the rate of decomposition; climatic and seasonal conditions. It is said that in warm climates and in summer, bodies may rise on the first day, but this is quite exceptional.

GYNECOMASTIA

To the Editor:—A man, aged 47, a lathe worker in a copper utensil manufacturing plant, for the past year has noticed a gradual increase in the size of the right breast until at present it is nearly twice as large as the left breast. There are no nodules, no puckering of the skin over the breast, and no enlargement of glands or retraction of the nipple, which appears normal. The substance of the breast feels normal; transillumination is negative. There is no pain or distress in or around the breast. It seems normal in every respect except for the increase in size. In the man's work, the stick that holds the cutting tool of the lathe presses against the right side of the chest and has caused from time to time soreness and some localized edema in the lower part of this breast, which disappears after a short time. There is no edema at present. I should like to know whether the local irritation could be the cause of this condition or of any other possible causes.

L. S. McMILLAN, M.D., Rome, N. Y.

ANSWER.—The patient is probably suffering from unilateral gynecomastia. Gynecomastia is a disorder of the male breast in which the gland tends to assume the size, shape and sometimes function of the female breast. The condition may be either unilateral or bilateral. The enlargement is sometimes accompanied by secretion. Two distinct types are recognized: (1) cases associated with an abnormal sexual function and sometimes demonstrable testicular defects, and (2) cases in which no abnormality of the sexual function is demonstrable. Examples of gynecomastia in which the enlargement of the breast appear to bear an etiologic relationship to a previous trauma are recorded in the literature, but the relationship between the enlargement of the breast and the trauma cannot be stated with absolute certainty. The possibility of trauma acting as the contributing cause must be entertained. At the same time it should be stressed that the condition usually occurs in the absence of demonstrable trauma.

TIME OF DAY FOR HEAVY MEAL

To the Editor:—Given the following circumstances, would you kindly inform me whether the heavier meal should be served at dinner or supper: 1. Breakfast at 7:15 a. m.; work from 8 to 12 noon. 2. Dinner at 12:15 p. m.; work from 1 p. m. to 4 p. m. 3. Supper at 5:15 p. m.; rest until lights out at 9:30 p. m. M.D., Montana.

ANSWER.—The eating of the larger meal in the evening or at noon is largely a matter of individual preference, habit and convenience. Many men find it inadvisable to eat the large meal at noon because this makes them sleepy for two or three hours afterward. The lighter the lunch the more wide awake they are for the afternoon's work. A physician will sometimes advise a patient to eat a light meal in the evening because he may then get a better night's rest. This is particularly true for the patient with a diseased gallbladder who tends to be distressed and bloated after a large meal.

EFFECTS OF OIL OF PEPPERMINT

To the Editor:—Does the administration of natural oil of peppermint in doses of from 2 to 5 minims (0.1 to 0.3 cc.) three times a day over several months reduce or alter bile production? Would the synthetic oil be more deleterious than the natural? In two cases in which this dosage was given in connection with the use of dextrose by mouth in large doses, the phenomenon of clay-colored stools was noted. I shall much appreciate your comments.

H. A. GREENWOOD, M.D., Maracaibo, Venezuela.

ANSWER.—Oil of peppermint has been shown to have a tendency to increase the secretion of bile, but it would have to be used in larger dosage to have any marked effect. If by synthetic oil of peppermint is meant a peppermint oil that has been enriched by the addition of menthol so as to come up to the official requirements, it is obvious that the effect of this oil will be the same as that of the "natural" product. If the dose of dextrose is very large, it might have some effect in making the stools lighter colored.

TYPHOID TRANSMISSION BY RECTUM

To the Editor:—Is there any known reference to "typhoid transmission by rectum?" As in an epidemic in an institution, is it possible to transmit the disease by the use of improperly or unsterilized rectal tubes? Please omit name. M.D., Pennsylvania.

ANSWER.—There does not seem to be any record of transmission of typhoid by way of the rectum through the use of tubes contaminated with typhoid bacilli. The possibility that typhoid can be transmitted in that way, of course, cannot be denied.

POSSIBLE REACTION FROM HAIR WASHES

To the Editor:—Please give me your opinion as to what reaction might result both local and constitutional from the following procedure: A solution of 12 Gm. of sodium sulfite and 8 ounces (236 cc.) of water is applied to the hair with a piece of cotton and left on from six to twelve hours. The hair is then washed with soap and water, rinsed with plain water and then rinsed with a solution of tartaric acid U. S. P., 12 Gm. to a gallon of water. The tartaric acid solution is then immediately rinsed off with plain water. Please omit name.

M.D., California.

ANSWER.—The solution of tartaric acid is obviously used to remove the last traces of sulfurous acid odor from the hair. Neither local nor constitutional reaction is likely to follow such treatment unless the patient's skin is hypersensitive.

ANTITYPHOID INOCULATION

To the Editor:—Would you kindly tell me the latest method of typhoid vaccination? I have always used three weekly increasing doses subcutaneously. I understand there is now an intracutaneous method similar to the one used in diphtheria, but I have no information whether it is efficient. What is your opinion? Please omit name.

M.D., Minnesota.

ANSWER.—No new method of preventive antityphoid inoculation has been introduced into practice.

TRYPARSAMIDE DERMATITIS

To the Editor:—In Queries and Minor Notes (THE JOURNAL, February 29, p. 726), in answer to a question on skin reactions with arsenicals, the statement is made that "tryparsamide is the only one of the commonly used organic arsenicals that does not cause skin eruption." In the *American Journal of Syphilis and Dermatology* (**18:** 308 [July] 1934) a report of a case of tryparsamide dermatitis, with a survey of the literature, was presented. The patient developed a classic exfoliative dermatitis, with redness and edema of the skin, signs of toxicity, fever, universal scaling, and loss of hair after three injections of tryparsamide. A. L. Skoog (Tryparsamide Therapy in Neurosyphilis, *J. Missouri M. A.* **22:** 387 [Oct.] 1925) reported that dermatitis in a mild form was seen but once in a summary of a thousand injections of tryparsamide in a series of cases. J. R. Phelps (Reactions Incidental to the Administration of 191,778 Doses of Neoarsphenamine and Other Arsenical Compounds in the U. S. Navy, *U. S. Nav. M. Bull.* **27:** 205 [Jan.] 1929) observed one mild skin complication in a study of 4,488 doses of tryparsamide. Other scattered instances were noted in the literature. Although the frequency of skin reactions due to the use of tryparsamide is very small, nevertheless this complication must be borne in mind. LOUIS J. BRAGMAN, M.D., Binghamton, N. Y.

ALLERGY TO TRYPARSAMIDE

To the Editor:—In THE JOURNAL, February 15, page 564, I observed a notation stating that there are no records of allergic reactions following the use of tryparsamide. While the question of just what constitutes an allergic reaction may be a moot one, and drug idiosyncrasy does not fulfil by far the requirements of true allergy, severe reactions of this type have been reported. In April 1934 (*Brit. J. Ven. Dis.*) I briefly reported a case of severe nitritoid reactions to tryparsamide. I have recently seen in my private practice a similar case in which definite urticarial reactions following tryparsamide also developed. The patient had previously been similarly intolerant to neoarsphenamine. The history of the reactions was interesting. After the eighth injection of tryparsamide he was slightly nauseated. After the thirteenth, slight flushing of the face and a few wheals on the neck and forearms were noticed. These were controlled by atropine until the eighteenth injection, when the Bezredka technic was instituted. Despite all precautions, however, the urticaria gradually became more severe and became generalized at the thirty-first injection. Following this and two subsequent injections, it was accompanied by nitritoid reactions of increasing severity but controlled by epinephrine. The tryparsamide was discontinued after the thirty-third injection because of the intensity of the reaction, and at the present time the patient, who has asymptomatic dementia paralytica, is receiving fever therapy. FRANK E. CORMIA, M.D., Montreal.

DERMATITIS DUE TO RUBBER GLOVES

To the Editor:—I have read with considerable interest the query in the February 29 issue, page 730. What can be done for dermatitis produced by the use of rubber gloves? Being bothered with a similar condition for the past year, I began experimenting and have found that bathing and steeping the hands in a saturated solution of boric acid just before and following the use of the gloves is very helpful. I have made it a point also to dust the hands well with talcum powder before putting on the gloves. T. E. BAILLY, M.D., San Francisco.

Medical Examinations and Licensure

COMING EXAMINATIONS

STATE AND TERRITORIAL BOARDS

ARIZONA: Phoenix, April 7-8. Sec., Dr. J. H. Patterson, 826 Security Bldg., Phoenix.

ARKANSAS: *Medical (Regular).* Little Rock, May 12-13. Sec., State Medical Board of the Arkansas Medical Society, Dr. A. S. Buchanan, Prescott. *Medical (Eclectic).* Little Rock, May 12. Sec., Dr. Clarence H. Young, 207½ Main St., Little Rock.

CALIFORNIA: *Reciprocity.* San Francisco, May 13. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento.

COLORADO: Denver, April 7. Sec., Dr. Harvey W. Snyder, 422 State Office Bldg., Denver.

HAWAII: Honolulu, April 13-16. Sec., Dr. James A. Morgan, 48 Alexander Young Bldg., Honolulu.

IDAHO: Boise, April 7. Commissioner of Law Enforcement, Hon. Emmitt Pfost, 205 State House, Boise.

ILLINOIS: Chicago, April 7-9. Superintendent of Registration, Department of Registration and Education, Mr. Homer J. Byrd, Springfield.

IOWA. *Basic Science.* Des Moines, April 14. Sec., Prof. Edward A. Benbrook, Iowa State College, Ames.

MINNESOTA: *Basic Science.* Minneapolis, April 7-8. Sec., Dr. J. Charnley McKinley, 126 Millard Hall, University of Minnesota, Minneapolis. *Medical.* Minneapolis, April 21-23. Sec., Dr. Julian F. Du Bois, 330 St. Peter St., St. Paul.

MONTANA: Helena, April 7. Sec., Dr. S. A. Cooney, 7 W. 6th Ave., Helena.

NEBRASKA: *Basic Science.* Omaha, May 5-6. Dir., Bureau of Examining Boards, Mrs. Clark Perkins, State House, Lincoln.

NEW MEXICO: Santa Fe, April 13-14. Sec., Dr. E. LeGrand Ward, Sena Plaza, Santa Fe.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS. *Parts I and II.* May 6-8, June 22-24, and Sept. 14-16. Ex. Sec., Mr. Everett S. Elwood, 225 S. 11th St., Philadelphia.

SPECIAL BOARDS

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOGY: *Oral examination for Group A and B applicants* will be held in Kansas City, Mo., May 11-12. Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: Oral, clinical and pathological examination of all candidates will be held in Kansas City, Mo., May 11-12. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh. (6).

AMERICAN BOARD OF OPHTHALMOLOGY: Kansas City, Mo., May 11 and New York, Sept. 26. *All applications and case reports must be filed sixty days before date of examination.* Asst. Sec., Dr. Thomas D. Allen, 122 S. Michigan Ave., Chicago.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Kansas City, Mo., May 11. Sec., Dr. Fremont A. Chandler, 180 N. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Kansas City, Mo., May 9. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

AMERICAN BOARD OF PEDIATRICS: Kansas City, Mo., May 9. Sec., Dr. C. A. Aldrich, 723 Elm St., Winnetka, Ill.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: St. Louis, Mo., May 8-9. Sec., Dr. Walter Freeman, 1028 Connecticut Ave., Washington, D. C.

AMERICAN BOARD OF RADIOLOGY: Kansas City, Mo., May 8-10. Sec., Dr. B. R. Kirklin, Mayo Clinic, Rochester, Minn.

AMERICAN BOARD OF UROLOGY: Kansas City, Mo., May 8-10. Sec., Dr. Gilbert J. Thomas, 1009 Nicollet Ave., Minneapolis.

New York June Examination

Mr. Herbert J. Hamilton, chief, Professional Examinations Bureau, reports the written examination held in Albany, Buffalo, New York and Syracuse, June 24-27, 1935. The examination covered 9 subjects. An average of 75 per cent was required to pass. Six hundred and fifty-two candidates were examined, 541 of whom passed and 111 failed. The following schools were represented:

PASSED

School	Year Grad.	Number Passed
University of Arkansas School of Medicine	(1932)	1
Yale University School of Medicine	(1935)	1
George Washington Univ. School of Med.	(1934, 5), (1935, 5)	10
Georgetown University School of Medicine	(1934, 3)	3
University of Georgia School of Medicine	(1934)	1
Loyola University School of Medicine	(1935, 2)	2
Rush Medical College	(1930), (1934), (1935, 2)	4
Tulane University of Louisiana School of Medicine	(1934, 2)	2
Johns Hopkins University School of Medicine	(1935)	1
University of Maryland School of Medicine and College of Physicians and Surgeons	(1935, 7)	7
Boston University School of Medicine	(1935, 5)	5
Harvard University Medical School	(1934)	1
Tufts College Medical School	(1934)	1
Univ. of Michigan Medical School	(1932), (1933), (1935, 4)	6
University of Minnesota Medical School	(1934)	1
St. Louis University School of Medicine	(1934, 2), (1935, 4)	6
Washington Univ. School of Med.	(1933), (1934), (1935, 4)	6
Creighton Univ. School of Med.	(1933), (1934, 2), (1935, 2)	5
University of Nebraska College of Medicine	(1933, 2)	2
Albany Medical College	(1935, 8)	8
Columbia University College of Physicians and Surgeons	(1933), (1934, 3), (1935, 61)	65
Cornell University Medical College	(1933), (1935, 15)	16
Long Island College of Medicine	(1931), (1933), (1934, 2), (1935, 69)	73
New York Homeopathic Medical College and Flower Hospital	(1934, 6), (1935, 33)	39
New York University, University and Bellevue Hospital Medical College	(1933, 4), (1934, 6)	10
New York University College of Medicine	(1935, 85)	85
Syracuse University College of Medicine	(1933), (1935, 31)	32
Univ. of Buffalo School of Medicine	(1933), (1934), (1935, 43)	45
Univ. of Rochester School of Med.	(1932), (1934), (1935, 21)	23
University of Oklahoma School of Medicine	(1935)	1
Hahnemann Medical College and Hospital of Philadelphia	(1933), (1934)	2
Jefferson Med. Col. of Philadelphia	(1932), (1934), (1935, 2)	4
Temple University School of Medicine	(1933), (1934, 2)	3
Univ. of Pennsylvania School of Med.	(1929), (1932), (1935)	3
Woman's Medical College of Pennsylvania	(1935)	1
Medical College of the State of South Carolina	(1932), (1935)	2
Marquette University School of Medicine	(1935)	1
University of Wisconsin Medical School	(1932)	1
Dalhousie University Faculty of Medicine	(1934), (1935)	2
Queen's University Faculty of Medicine	(1931), (1935)	2
Univ. of Toronto Faculty of Medicine	(1928), (1931), (1933)	3
McGill Univ. Faculty of Medicine	(1933), (1934), (1935)	3
Medizinische Fakultät der Universität Wien	(1932), (1934, 7)*	8
Deutsche Universität Medizinische Fakultät, Prag	(1927)	1
Licentiate of the Royal College of Physicians of London and Member of the Royal College of Surgeons of England	(1934, 2), (1935, 4)*	6
Univ. de Paris Faculté de Médecine	(1932),* (1933),* (1934)*	3
Albert-Ludwigs-Universität Medizinische Fakultät, Freiburg	(1930),* (1934)*	2
Albertus-Universität Medizinische Fakultät, Königsberg	(1933)*	1
Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin	(1930), (1932), (1934, 2)*	4
Hamburgische Universität Medizinische Fakultät	(1931),* (1932),* (1934)*	3
Hessische Ludwigs-Univ. Medizinische Fakultät, Giessen	(1932)	1
Ludwig-Maximilians-Universität Medizinische Fakultät, München	(1935)*	1
Schlesische-Friedrich-Wilhelms-Universität Medizinische Fakultät, Breslau	(1930)*	1
Universität Heidelberg Medizinische Fakultät	(1933),* (1934)*	2
Regia Università degli Studi di Padova. Facoltà di Medicina e Chirurgia	(1932)	1
Regia Università degli Studi di Roma. Facoltà di Medicina e Chirurgia	(1929)	1
Licentiate of the Royal College of Physicians of Edinburgh and of the Royal College of Surgeons of Edinburgh	(1935)*	1
Licentiate of the Royal College of Physicians of Edinburgh, of the Royal College of Surgeons of Edinburgh, and of the Royal Faculty of Physicians and Surgeons of Glasgow	(1933, 2), (1934)	3
University of Edinburgh Faculty of Medicine	(1933), (1934)*	2
University of Glasgow Medical Faculty	(1934),* (1935)*	2
University of St. Andrews Conjoint Medical School	(1933), (1934, 2), (1935, 2)*	5
Universität Bern Medizinische Fakultät	(1934, 2)*	2
Universität Zürich Medizinische Fakultät	(1935, 2)*	2

FAILED

School	Year Grad.	Number Failed
University of California Medical School	(1935)	1
Georgetown University School of Medicine	(1931), (1933, 2)	3
Emory University School of Medicine	(1934)	1
Loyola University School of Medicine	(1935, 5)	5
Northwestern University Medical School	(1933)	1
University of Maryland School of Medicine and College of Physicians and Surgeons	(1935)	1
Boston University School of Medicine	(1934, 2), (1935, 2)	4
Tufts College Medical School	(1934)	1
University of Michigan Medical School	(1933), (1935, 2)	3
University of Minnesota Medical School	(1935)	1
St. Louis University School of Medicine	(1935, 2)	2
Washington University School of Medicine	(1929)	1
Columbia University College of Physicians and Surgeons	(1935, 2)	2
Cornell University Medical College	(1933), (1935, 3)	4
Long Island College of Medicine	(1934), (1935, 6)	7
New York Homeopathic Medical College and Flower Hospital	(1914), (1935, 13)	14
New York University College of Medicine	(1935, 2)	2
Syracuse University College of Medicine	(1935)	1
University of Buffalo School of Medicine	(1934), (1935, 3)	4
University of Rochester School of Medicine	(1935, 2)	2
Hahnemann Medical College and Hospital of Philadelphia	(1931), (1934)	2
Jefferson Medical College of Philadelphia	(1930), (1934)	2
Temple University School of Medicine	(1934)	1
University of Pennsylvania School of Medicine	(1933), (1934)	2
Dalhousie University Faculty of Medicine	(1928)	1
Queen's University Faculty of Medicine	(1935)	1
University of Western Ontario Medical School	(1932)	1
McGill University Faculty of Medicine	(1915), (1935)	2
Karl-Franzens-Universität Medizinische Fakultät, Graz	(1934)*	1
Medizinische Fakultät der Universität Wien	(1931),* (1932),* (1934)*	4
St. Mary's Hosp. Medical School, Univ. of London	(1935)*	1
London School of Medicine for Women, University of London	(1933)*	1
Université de Paris Faculté de Médecine	(1934), (1935)*	2
Université de Toulouse Faculté de Médicine et de Pharmacie	(1934)*	1
Albert-Ludwigs-Universität Medizinische Fakultät, Freiburg	(1930), (1935)*	2
Friedrich-Alexanders-Universität Medizinische Fakultät, Erlangen	(1930)	1
Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin	(1930),* (1931),* (1934)*	3
Hamburgische Universität Medizinische Fakultät	(1935)*	1
Johann Wolfgang Goethe-Universität Medizinische Fakultät, Frankfurt-am-Main	(1933, 2)*	2
Julius-Maximilians-Universität Medizinische Fakultät, Würzburg	(1933)*	1
Schlesische-Friedrich-Wilhelms-Universität Medizinische Fakultät, Breslau	(1934)*	1
Universität Köln Medizinische Fakultät	(1932)	1
Westfälische Wilhelms-Universität Medizinische Fakultät, Münster	(1931)	1

Regia Università degli Studi di Bologna. Facoltà di Medicina e Chirurgia .....(1934)*	1
Regia Università degli Studi di Roma. Facoltà di Medicina e Chirurgia.....(1934, 2),* (1934, 3)	5
Regia Università di Napoli Facoltà di Medicina e Chirurgia .....(1934)*	1
University of Saratov Faculty of Medicine.....(1922)*	1
University of Aberdeen Faculty of Medicine.....(1935)	1
Universität Bern Medizinische Fakultät.....(1934),* (1934)	2
Universität Zürich Medizinische Fakultät....(1934),* (1935)*	2
Université de Genève Faculté de Médecine.(1933, 2),* (1934)*	3

* Verification of graduation in process.

Book Notices

Electropyrexia in General Paralysis. By Leland E. Hinsie, M.D., Research Associate in Psychiatry, New York State Psychiatric Institute and Hospital, and Joseph R. Blalock, M.D., Senior Physician (Psychiatrist), New York State Psychiatric Institute and Hospital. With a preface by Clarence O. Cheney, M.D. Cloth. Price, $1.25. Pp. 90, with 3 illustrations. Utica, New York: State Hospitals Press, 1934.

This monograph describes the experiences of investigators at the New York State Psychiatric Institute and Hospital in the application of artificially induced fever to dementia paralytica. These workers utilized the short radio waves produced by an ultra high frequency oscillator to reproduce as closely as possible the temperature curves produced by inoculated malaria. Approximately half of the monograph is devoted to a critical analysis of the experiences of other workers in this field. There is an excellent review of the literature dealing with physiologic responses to artificially induced fever.

All of the 105 patients subjected by Hinsie and Blalock to artificial fever therapy exhibited the clinical and laboratory signs of dementia paralytica of the adult type. None had received previously any of the antisyphilitic forms of treatment that are known to be beneficial in dementia paralytica. All were subjected essentially to the same technic from the standpoint of high frequency pyretotherapy. All were selected on the basis of suitability for fever therapy. These requirements were essentially the same as those applied to candidates for malaria therapy.

For purposes of comparison the patients were divided into three groups. The first group consisted of fifty-one patients who were treated by thermotherapy only. The second group consisted of twenty-seven patients who were treated with an equivalent amount of thermotherapy and who received, six months later, either tryparsamide and mercury therapy or a course of inoculated malaria. The third group of twenty-seven patients received a similar course of pyretotherapy, followed immediately by one or more courses of tryparsamide and mercuric salicylate in oil. A comparison of the results attained in the treatment of the group of patients who received thermotherapy alone, with those who received thermotherapy followed six months later by some other form of therapy, revealed that the addition of chemotherapy or malaria therapy after the interval of six months was of little or no benefit. In the third group of patients, treated by thermotherapy followed directly by chemotherapy, the clinical results were distinctly better. The remission rate of the patients of the first two groups one year after treatment was 21.7 per cent, while the remission rate one year after the termination of treatment in the third group was 37 per cent.

This monograph will be of particular interest to the neuropsychiatrist, the syphilologist and those who are engaged in investigations in artificial fever therapy.

The Phenomena of Life: A Radio-Electric Interpretation. By George Crile. Edited by Amy Rowland. Cloth. Price, $3.50. Pp. 379, with 113 illustrations. New York: W. W. Norton & Company, Inc., 1936.

Into this book the author has put most of the biologic investigations and speculations that have interested him over a third of a century. It is interesting reading, coming from a busy surgeon, but not easy reading. Some doctors take to golf, others to bridge, while Dr. Crile seeks his stimulation and recreation in the profundities of biology. The radio-electric interpretation of living processes may not appear very convincing to the biologists, but the tale of Dr. Crile's quest "Why did William Lyndman die?" is a charming one, and human even in its incompatibles and contradictions. The basal metabolic rate does not drop 50 per cent during sleep (p. 163). The human infant has no natural weapons for attack, yet he seems to experience both fear and anger (p. 187). It may worry the thoughtful to find worry defined as "interrupted stimulation" (p. 189). Others may be curious to know how this noted surgeon has "tested in the crucible of the clinic" (p. 18) the theory that the armadillo, the snake, the porcupine and the skunk "show little or no fear" and "have simple adrenal-sympathetic complexes" (p. 187). Many readers will fail to see that Dr. Crile's radio-electric interpretation of life is in any way strengthened by the assertion that "no amount of trauma, no amount of physical injury in an area where the sensory nerves are blocked by local, regional or spinal anesthesia can cause excitation, depression, or death" (p. 357) for, as a generalization, this seems not proved. The author's service to practical surgery is greater than his contributions to the philosophy of biology. But why may not a doctor try his wings in the stratosphere, along with physicists and astronomers? At least to date he broadcasts on "autosynthetic cells" and "radiogens" (built on the plan of the solar system), not on free will and God.

The Principles and Practice of X-Ray Therapy. By Ffrangcon Roberts, M.A., M.D., M.R.C.P., Physician in charge of the Douty X-Ray Clinic, Addenbrooke's Hospital, Cambridge. Cloth. Price, 10s. 6d. Pp. 214, with 115 illustrations. London: H. K. Lewis & Co., Ltd., 1936.

This book presents facts relative to x-rays and their therapeutic applications in a simple and concise manner from which an excellent basis and rational conception for the practice of roentgen therapy may be acquired. Fundamental principles especially are described in an easily comprehensible manner and correlated with practical application. The physical aspects discussed include the nature and source of x-rays, means of production, passage through matter, measure of quantity and quality, surface and depth doses and the methods of application to obtain desired results. Factors explaining the rationale of various technic, such as massive, fractional, saturation and protracted fractional dose methods, are given consideration. Chapters are devoted to the biologic action of x-rays on normal tissues and to the general principles in connection with malignant disease. The quality of radiation as related to therapeutic effect, stimulating doses, radioimmunization, accessory methods of increasing the coefficient of sensitiveness, and preoperative and postoperative irradiation are all discussed briefly. That part of the book covering the practical therapy of particular conditions apparently is intended to give the reader merely a general perspective of the conditions amenable to roentgen therapy. In it, malignant disease in the commoner situations, lymphogranulomas, diseases of the blood-forming organs, hyperthyroidism, nonmalignant diseases in women, diseases of the skin and miscellaneous diseases are given consideration more or less sketchily. Details presented in connection with some of the conditions appear to be out of proportion to those accorded to others. Although the book cannot classify as an exhaustive treatise on the subject it is intended to cover, it forms a valuable reference work on present-day practice. Without overenthusiasm it shows what may reasonably be expected from roentgen therapy based on theories grounded on established facts.

Dyke's Automobile and Gasoline Engine Encyclopedia: The Elementary Principles, Construction, Operation and Repair of Automobiles, Gasoline Engines and Automobile Electric Systems; Including Trucks, Tractors, Motorcoaches and Motorcycles. By A. L. Dyke. Seventeenth edition (Silver Anniversary Edition). Cloth. Price, $6. Pp. 1311, with illustrations. Chicago: Goodheart-Wilcox Company, Inc., 1935.

This is a practical book treating on the principles, construction, operation, repairing, troubles and remedies of automobiles and gas engines. It is compiled with three general classes of readers in mind—students, repairmen and car owners. The fact that the first edition was published in 1910 and that there have been sixteen editions since then is proof enough that it has served as a reliable reference book for automotive information. The thirteenth edition was completely rewritten; subsequent editions have been revisions of the thirteenth. It has two indexes, and the addenda are in three sections. The main body of the book deals with the fundamental principles of the motor car, while the addenda cover the modern improvements of various cars. Thumbing through the index and looking up various items listed, one finds that almost any subject is considered; for example, there are explanations of ignition systems

and how to repair them, diagrams of the starter systems, descriptions of superchargers and how they work—all of which and much more is explained in nontechnical language. Quackery is not prevalent in automotive practice, but it appears to creep in in at least one instance. Doubtless every physician has been impressed by the demonstration of the sidewalk salesman selling so-called spark intensifiers. He shows that the spark plug can be made to work even when completely carbonized and filled with oil. In this book there is an explanation why these devices are worthless and a hindrance to perfect performance of the car. The author makes no attempt to evaluate the advertised important features of each make of car which the salesmen use in their sales talks. Any physician who is inquisitive as to the operation of his or any make of car should find this volume a valuable addition to his library.

Atlas of Human Anatomy, with Explanatory Text. By Jesse Feiring Williams, M.D., Columbia University. Cloth. Price, $2. Pp. 64, with colored illustrations by Franz Frohse, Max Brödel and Leon Schlossberg. New York: Barnes & Noble, Inc., 1935.

The first part of this small book is a brief general discussion of the anatomy of the human body by systems. This part evidently was prepared especially for the instruction of laymen and it is illustrated with drawings. The second part of the book comprises about twenty-seven pages of colored anatomic charts, some of which are miniatures of the well known life-size charts prepared by Franz Frohse of Berlin and formerly published in America by A. J. Nystrom & Co. of Chicago. In addition, the book contains colored charts of the throat, heart, neck and genito-urinary organs made by Prof. Max Brödel of Johns Hopkins University School of Medicine. There are also several colored charts of the brain and skull and of the alimentary tract drawn by Mr. Schlossberg in cooperation with Professor Brödel, by whom the entire series has been carefully revised and corrected where necessary. These charts have been edited and grouped so that related subjects appear close to one another. They are exceptionally clear and well drawn and it is simple to locate on the page the numerous anatomic parts named and indicated by numbers and dotted lines. This handy volume should be interesting to laymen, and also useful to physicians when they have occasion to explain the anatomy of the human body.

Voprosy obshchey i chastnoy rentgenologii. Sbornik rabot kafedry rentgenologii gosudarstvennogo instituta dlya usovershenstvovaniya vrachey v Leningrade. Pod redaktsiey Prof. S. A. Reynberga. [Problems of General and Special Roentgenology: Collected Works of Department of Roentgenology of Leningrad State Institute for Training of Physicians.] Cloth. Pp. 285, with illustrations. Moscow & Leningrad: Izdatelstvo Akademii nauk, U. S. S. R., 1935.

This is the first published volume from this department of roentgenology, which was founded three years ago. The contributions consist of investigations in the fields of cardiology, diseases of the gastro-intestinal tract, the central nervous system and the pathology of bones and joints, with special chapters dealing with the use of x-rays in agriculture, the biologic effects of ultrashort waves, and the organization of roentgenologic service on trains. The scope and scientific quality of the material presented suggest that roentgenology in the Soviet Union, while not technically as far advanced as it is in the United States, is making progress.

The Modern Treatment of Burns and Scalds. By Philip H. Mitchiner, M.D., M.S., F.R.C.S., Hon. Surgeon to H. M. The King. Cloth. Price, $2. Pp. 64, with 12 illustrations. Baltimore: William Wood & Company, 1935.

This monograph on the treatment of burns is essentially a presentation of the technical details of the author's modification of the tannic acid treatment in the early stages of burns and scalds. The discussion of the causes leading to death in burns and scalds is brief. The author's statement that the absorption of histamine bodies from the damaged tissues is generally accepted as the cause of collapse in the early stages of burns is not entirely in accord with the literature on this subject. The same may be said of his statement that acid burns should be treated with alkaline solutions and that alkali burns should be treated with acid solutions. Such important points as restoration of fluid loss, the transfusion of blood in extensively burned patients who are apparently in good condition, and the restoration of blood chlorides are sketchily dealt with. The author's discussion of the importance of using the proper solution of tannic acid is to be commended, although it is regrettable that he does not extend this investigation beyond the determination of the concentration of tannic acid. The effect of the p_H of the solution is ignored. The principal criticism of the book is the overemphasis on a single method of treating the wound. This is especially apparent in the table of statistics on the mortality of burns and scalds in St. Thomas's Hospital from 1894 to 1932, in which the figures are presented in such a manner as to lead one to believe that a reduction of mortality from 30.8 per cent to 2.4 per cent is to be ascribed entirely to the use of a 2.5 per cent tannic acid solution. These figures are not in accord with some which have been published by other clinicians within recent years and they emphasize again the shortcomings of physicians in the application of statistical methods to clinical problems. The principal value of the book is that it directs attention to an extremely important and, until recently, sadly neglected field of medical and surgical practice.

Anomalii rosta i razvitiya. [By] Dotsent B. I. Morgulis. S. predisolviem Prof. V. M. Kogan-Yasnogo. Acta Endocrinologica Ukrainica, Part 5. [Anomalies of Growth and Development.] Paper. Price, 4 rubles, 50 kopecks. Pp. 120, with 75 illustrations. Kharkov: Izdanie vseukrainskogo Instituta endokrinologii i organoterapii, 1934.

The monograph is an attempt to present systematically various anomalies of growth and development. The etiology and pathogenesis are discussed and prophylaxis and therapy are suggested. While there is nothing new or original about the observations presented, the value of the monograph lies in a rather large personal material of the author.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Pharmacists: Liability for Sale of Poisons to Minor.—Martha McGhee, a minor between the ages of 15 and 16 years, in a mood of despondency, determined to commit suicide. After unsuccessfully attempting to purchase poison at three drug stores, she succeeded in buying a quantity of bichloride of mercury tablets and a bottle of tincture of iodine from the defendant drug store. She swallowed eight or nine bichloride of mercury tablets and drank the bottle of iodine. Death was averted by prompt medical attention, but the girl was severely injured by the poison. She and her father instituted separate suits against the defendant drug store to recover damages, the cases were tried together, the trial court gave judgments for the plaintiffs, and the defendant appealed to the court of appeals of Tennessee, eastern section.

The declarations in each case alleged as causes of action: (1) that the employee of the defendant drug store knew, or by the exercise of reasonable care should have known, that the girl was in a state of temporary insanity, that she was likely to take the poison, and that in making the sale the employee thus was directly responsible for the girl becoming poisoned and for the resulting injuries; and (2) that the defendant was negligent, through its employee, in selling poison to a minor under 16 years of age, not on the written order of some responsible adult person, a Tennessee statute forbidding such a sale. In thus violating the statute, said the appellate court, the defendant was guilty of negligence per se and if that negligence was the proximate cause of the injuries suffered, the defendant was liable. In the case of *Meyer* v. *King*, 72 Miss. 1, 16 So. 245, 35 L. R. A. 474, relied on by the court in the present case, a mother brought suit against a druggist to recover damages for the death of her son, which had resulted from drinking chloroform sold to him by the druggist in violation of a Mississippi statute. Finding that the son had reached the age of discretion and that he knowingly and voluntarily drank the chloroform, the court in that case held that his act in drinking the chloroform, and not the act of the druggest in selling it to him, was the proximate cause of his death. So, in the present case, the court was of the opinion that the act of the girl in swallowing the bichloride of mercury tablets and in drinking the iodine was the proximate cause of her injuries, unless her

reason and memory were, at the time, so far obscured that she did not know and understand what she was doing. The evidence was clear, in the opinion of the appellate court, that the girl voluntarily formed a purpose to end her life by means of poison, that she sought and procured the poison which she thought necessary to accomplish that purpose, and then promptly swallowed the poison with full knowledge of what she was doing and in the belief that it would destroy her life. The record contained no testimony of medical expert witnesses with respect to the mental condition of the girl, and the court could find nothing in the record to afford a reasonable basis for an inference that she was insane or mentally incompetent to the extent that she did not know and comprehend the full import and consequences of what she was doing at the time in question. The appellate court, therefore, reversed the judgments against the defendant and dismissed the suits. Certiorari was denied by the Supreme Court of Tennessee.—*Eckerd's, Inc. v. McGhee (Tenn.), 86 S. W. (2d) 570.*

Hospitals: Liability for Injury to Pay Patient in County Hospital. — Pursuant to statutory authority, Twin Falls County, Idaho, erected and operated a county hospital. Pay patients were admitted and the county derived a profit from the operation of the hospital. Following an appendectomy on the plaintiff, a pay patient, her physician prescribed an injection of a normal saline solution, to be administered by a special nurse. An employee of the hospital gave to the nurse a container containing a liquid similar in appearance to a normal saline solution but which actually contained boric acid. The nurse injected the boric acid solution and severe sloughing resulted. And, while in the hospital, the plaintiff contracted typhoid fever, which she attributed to her diminished powers of resistance caused by the injection of the boric acid. Thereafter the plaintiff sued the county to recover damages for her injuries. The trial court dismissed the suit and the plaintiff appealed to the Supreme Court of Idaho.

The Idaho statute providing for the erection of county hospitals, said the Supreme Court, merely provides that county commissioners shall have power to erect, or to lease, equip and operate a county hospital. The statute imposed no obligation on counties to erect hospitals; it was permissive in character only. Whether or not the county was liable for the negligence of hospital employees in the present case, the court said, depended on whether in operating the hospital the county was engaged in a governmental function. A duty is imposed on the county to take care of the indigent sick and otherwise dependent poor. The county might discharge that duty directly or by contract. Having built the hospital to discharge its public and governmental duty, it had the power to utilize any excess facilities it possessed for serving pay patients. In serving pay patients, however, the county was not engaged in the discharge of its public and governmental duty; it was engaged in a private and proprietary business for pay. Its relation to pay patients is the same as the relation of any privately owned hospital toward a patient. The county urged that if it should be held liable for injuries to pay patients it might be embarrassed financially by being required to pay heavy damages. That might prove true, said the Supreme Court, but the remedy lies with the county. It may either carry insurance to protect it against such risks or refuse to accept pay patients.

The county further contended that the hospital was a charitable institution and that the county was not for that reason liable to a pay patient. In answering this contention, the Supreme Court of Idaho referred with approval to the case of *Tucker* v. *Mobile Infirmary Association,* 191 Ala., 572, 68 So. 4, in which it was held that a pay patient in a hospital conducted without profit could recover damages for an injury caused by the negligence of an attending nurse, and to the case of *Mulliner* v. *Evangelischer Diakonniessenverein of Minnesota Dist. of German Evangelical Synod of North America,* 144 Minn. 392, 175 N. W. 699, in which a similar principle was applied.

The court concluded, therefore, that in supplying hospital care to the plaintiff the county was acting in a proprietary and corporate capacity and that it was liable for the negligence of the hospital employees. The judgment of the trial court dismissing the plaintiff's suit was reversed.—*Henderson v. Twin Falls County (Idaho), 50 P. (2d) 597.*

Society Proceedings

COMING MEETINGS

American Medical Association, Kansas City, Mo., May 11-15. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.

Alabama, Medical Association of the State of, Montgomery, Apr. 21-23. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Secretary.

American Academy of Pediatrics, Kansas City, Mo., May 11-12. Dr. Clifford G. Grulee, 636 Church St., Evanston, Ill., Secretary.

American Association for Thoracic Surgery, Rochester, Minn., May 4-6. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.

American Association of Anatomists, Durham, N. C., Apr. 9-11. Dr. George W. Corner, 260 Crittenden Boulevard, Rochester, N. Y., Secretary.

American Association of Pathologists and Bacteriologists, Boston, Apr. 9-10. Dr. Howard T. Karsner, 2085 Adelbert Road, Cleveland, Secretary.

American Association of the History of Medicine, Atlantic City, N. J., May 4. Dr. Edward J. G. Beardsley, 1919 Spruce St., Philadelphia, Secretary.

American Association on Mental Deficiency, St. Louis, May 1-4. Dr. Groves B. Smith, Beverly Farms, Godfrey, Ill., Secretary.

American Bronchoscopic Society, Detroit, May 27. Dr. Lyman Richards, 319 Longwood Ave., Boston, Secretary.

American Gastro-Enterological Association, Atlantic City, N. J., May 4-5. Dr. Russell S. Boles, 1901 Walnut Street, Philadelphia, Secretary.

American Gynecological Society, Absecon, N. J., May 25-27. Dr. Otto H. Schwarz, 630 S. Kingshighway Blvd., St. Louis, Secretary.

American Heart Association, Kansas City, Mo., May 12. Dr. H. M. Marvin, 50 West 50th St., New York, Acting Executive Secretary.

American Laryngological Association, Detroit, May 25-27. Dr. James A. Babbitt, 1912 Spruce St., Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Denver, May 18-20. Dr. C. Stewart Nash, 708 Medical Arts Building, Rochester, N. Y., Acting Secretary.

American Orthopedic Association, Milwaukee, May 18-21. Dr. Ralph K. Ghormley, Mayo Clinic, Rochester, Minn., Secretary.

American Otological Society, Detroit, May 28-29. Dr. Thomas J. Harris, 104 E. 40th St., New York, Secretary.

American Psychiatric Association, St. Louis, May 4-8. Dr. William C. Sandy, State Education Building, Harrisburg, Pa., Secretary.

American Radium Society, Kansas City, Mo., May 11-12. Dr. E. H. Skinner, 1103 Grand Ave., Kansas City, Mo., Secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 4. Dr. J. M. Hayman Jr., Lakeside Hospital, Cleveland, Secretary.

American Society for the Hard of Hearing, Boston, May 26-30. Miss Betty C. Wright, 1537 35th St. N. W., Washington, D. C., Secretary.

American Surgical Association, Chicago, May 7-9. Dr. Vernon C. David, 59 East Madison Street, Chicago, Secretary.

American Therapeutic Society, Kansas City, Mo., May 8-9. Dr. Oscar B. Hunter, 1835 Eye St. N. W., Washington, D. C., Secretary.

American Urological Association, Boston, May 18-21. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.

Arizona State Medical Association, Nogales, Apr. 23-25. Dr. D. F. Harbridge, 15 East Monroe Street, Phoenix, Secretary.

Arkansas Medical Society, Hot Springs National Park, Apr. 27-29. Dr. W. R. Brooksher, 602 Garrison Ave., Fort Smith, Secretary.

Association for the Study of Internal Secretions, Kansas City, Mo., May 11-12. Dr. E. Kost Shelton, 34 Micheltorena St., Santa Barbara, Calif., Secretary.

Association of American Physicians, Atlantic City, N. J., May 5-6. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.

California Medical Association, Coronado, May 25-28. Dr. F. C. Warnshuis, 450 Sutter St., San Francisco, Secretary.

Connecticut State Medical Society, Hartford, May 20-21. Dr. Charles W. Comfort Jr., 27 Elm Street, New Haven, Secretary.

District of Columbia, Medical Society of the, Washington, D. C., May 6. Dr. C. B. Conklin, 1718 M St. N. W., Washington, D. C., Secretary.

Florida Medical Association, S. S. *Florida,* Apr. 27-29. Dr. Shaler Richardson, 111 West Adams St., Jacksonville, Secretary.

Georgia, Medical Association of, Savannah, Apr. 21-24. Dr. Edgar D. Shanks, 478 Peachtree Street N.E., Atlanta, Secretary.

Illinois State Medical Society, Springfield, May 19-21. Dr. Harold M. Camp, 202 Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, Apr. 29-May 1. Dr. Robert L. Parker, 3510 Sixth Ave., Des Moines, Secretary.

Louisiana State Medical Society, Lake Charles, Apr. 27-29. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, Apr. 28-29. Dr. Walter Dent Wise, 1211 Cathedral St., Baltimore, Secretary.

Medical Library Association, Rochester, Minn., May 25-27. Miss Janet Doe, 2 E. 103d St., New York, Secretary.

Medical Women's National Association, Kansas City, Mo., May 10-12. Dr. Laila A. Coston-Conner, 333 East 68th St., New York, Secretary.

Minnesota State Medical Association, Rochester, May 3-6. Dr. E. A. Meyerding, 11 West Summit Ave., St. Paul, Secretary.

Mississippi State Medical Association, Greenville, May 5-7. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.

Missouri State Medical Association, Columbia, Apr. 13-15. Dr. E. J. Goodwin, 634 North Grand Blvd., St. Louis, Secretary.

National Tuberculosis Association, New Orleans, Apr. 22-25. Dr. Charles J. Hatfield, 7th and Lombard streets, Philadelphia, Secretary.

Nebraska State Medical Association, Lincoln, Apr. 7-9. Dr. R. B. Adams, 15 N Street, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 26-27. Dr. Carleton R. Metcalf, 5 S. State St., Concord, Secretary.

New Mexico Medical Society, Carlsbad, May 6-8. Dr. L. B. Cohenour, 219 West Central Ave., Albuquerque, Secretary.

New York, Medical Society of the State of, New York, Apr. 27-29. Dr. Daniel S. Dougherty, 2 East 103d St., New York, Secretary.

North Carolina, Medical Society of the State of, Asheville, May 4-6. Dr. L. B. McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Jamestown, May 17-19. Dr. Albert W. Skelsey, 20½ Broadway, Fargo, Secretary.

Oklahoma State Medical Association, Enid, Apr. 6-8. Dr. L. S. Willour, 203 Ainsworth Building, McAlester, Secretary.
Pacific Coast Oto-Ophthalmological Society, Del Monte, Calif., April 13-16. Dr. Frederick C. Cordes, Fitzhugh Bldg., San Francisco, Secretary.
South Carolina Medical Association, Greenville, Apr. 21-23. Dr. E. A. Hines, Seneca, Secretary.
South Dakota State Medical Association, Sioux Falls, May 4-6. Dr. John F. D. Cook, Langford, Secretary.
Tennessee State Medical Association, Memphis, Apr. 14-16. Dr. H. H. Shoulders, 706 Church Street, Nashville, Secretary.
Texas, State Medical Association of, Houston, May 25-28. Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Periodicals are available from 1926 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

11: 129-254 (Feb.) 1936

Diastolic Gallop Rhythm: Note on Certain Factors Influencing Prognosis. W. P. Thompson and S. A. Levine, Boston.—p. 129.
Pulsus Alternans: Note on Certain Factors Influencing Prognosis. W. P. Thompson and S. A. Levine, Boston.—p. 135.
Parasystole Showing Simple Interference Dissociation: Case. I. G. W. Hill, Aberdeen, Scotland, and J. D. S. Cameron, Edinburgh, Scotland. —p. 140.
*The Heart in Emphysema. W. B. Kountz, H. L. Alexander and M. Prinzmetal, St. Louis.—p. 163.
*Clinical Study of Electrocardiogram and of Phases of Cardiac Systole in Pellagra. H. Feil, Cleveland.—p. 173.
Electrocardiograms on One Hundred and Sixty-Seven Average Healthy Infants and Children. C. T. Burnett and Evelyn Laura Taylor, Denver.—p. 185.
Minute Volume Determinations in Mitral Stenosis During Auricular Fibrillation and After Restoration of Normal Rhythm. A. C. Kerkhof, Minneapolis.—p. 206.
Transient Complete Bundle-Branch Block: Report of Six Cases. C. M. Kurtz, Madison, Wis.—p. 212.
*Influence of Posture on Partial Heart Block. H. L. Alexander and T. C. Bauerlein, St. Louis.—p. 223.
Heart Block Following X-Ray Treatment for Thyrotoxicosis. D. N. Kremer and L. B. Laplace, Philadelphia.—p. 227.

The Heart in Emphysema.—Kountz and his associates confine their study to true emphysema, such as follows asthma and other obstructive lesions of the bronchi. From their observations it appears that: 1. The heart is affected in the majority of patients with emphysema. 2. The lesion, cardiac hypertrophy, with dilatation of the right ventricle when advanced, may produce symptoms but probably has no clinical reflection in its earlier stages. 3. The cause of the left ventricular hypertrophy remains as yet undetermined. 4. There is experimental evidence which indicates that the right ventricular dilatation and hypertrophy occur chiefly in the earlier stage of emphysema, when the lungs are in the process of distention, rather than later as generally believed.

Electrocardiograms and Phases of Cardiac Systole in Pellagra.—In Feil's study of thirty-eight cases of moderate to severe pellagra, electrocardiographic abnormalities in the ventricular complex occurred in 50 per cent. In fourteen of these nineteen cases there was no complication that might alter the electrocardiogram (36.8 per cent). The chief abnormalities were inversion of T waves in leads 1 or 2 or both, Pardee type of ST and large T waves. Lead 4 was abnormal in twelve of thirty-three cases in which it was recorded (36.4 per cent). Lead 4 was abnormal in four cases with normal leads 1, 2 and 3. The QT interval and mechanical systole were prolonged in some cases. These observations suggest that the heart is affected physiologically in pellagra. Twelve hearts (one of which was studied electrocardiographically and dynamically) examined pathologically showed no gross or microscopic abnormality. Roentgenographic changes were lacking in the cases studied.

Influence of Posture on Partial Heart Block.—Alexander and Bauerlein observed a patient with partial heart block, presumably of organic nature, who had a ventricular rate much faster in the upright position than when recumbent. It appears that this discrepancy is due to vagus effect. Under atropine medication the block (other than a prolonged PR interval) and its attendant symptoms disappeared.

American J. Obstetrics and Gynecology, St. Louis

31: 187-368 (Feb.) 1936

Brief History of Obstetrics and Gynecology in Virginia: Presidential Address. M. P. Rucker, Richmond, Va.—p. 187.
Maternal Mortality and Maternal Mortality Rates. J. Young, London, England.—p. 198.
Clinical and Pathologic Differentiation of Certain Special Ovarian Tumors: Granulosa Cell Carcinoma, Arrhenoblastoma, Disgerminoma, Brenner Tumor. E. Novak and L. A. Gray, Baltimore.—p. 213.
Subphrenic Collection of Lipiodol Following Injection into Fallopian Tube, with Observations on Reverse Gravitation of Pelvic Exudates and Genitophrenic Syndrome in Women. I. C. Rubin, New York.—p. 230.
Massive Blood Transfusions During Abdominal Operations. B. Z. Cashman and M. H. Baker, Pittsburgh.—p. 240.
*Fibrosis of Placenta: Its Significance in Normal and in Syphilitic Organ. T. L. Montgomery, Philadelphia.—p. 253.
Operative Treatment of Urinary Incontinence. M. Douglass, Cleveland. —p. 268.
Reduction of Mortality in Ectopic Gestation. C. A. Gordon, Brooklyn. —p. 280.
*Intraspinal Alcohol Injections and Sympathectomy for Pain Associated with Carcinoma of Cervix: Comparison in Eighty Cases. J. P. Greenhill and H. E. Schmitz, Chicago.—p. 290.
Uterine Bleeding: Study Based on Ten Hundred and Forty-Eight Cases. A. J. Rongy, A. Tamis and H. Gordon, New York.—p. 300.
Vesicovaginal Fistula: Management and End Results. L. E. Phaneuf, Boston.—p. 316.
Premature Separation of Placenta in Private Practice. R. L. De Normandie, Boston.—p. 325.
Intermediate Repair of Injuries Resulting from Childbirth. S. E. Tracy, Philadelphia.—p. 333.
Mucocele of Vermiform Appendix. W. T. Dannreuther, New York.—p. 342.
Wheat Germ Oil (Vitamin E) Therapy in Obstetrics. E. M. Watson and W. P. Tew, London, Ont.—p. 352.
*Carcinoma of Retained Cervix or Subtotal versus Total Hysterectomy. J. V. Meigs, Boston.—p. 358.

Fibrosis of Placenta.—Montgomery reviewed his cases of placental sections, studied the histories of the corresponding patients and endeavored to determine what effect the so-called lesion of fibrosis has on the weight of the new-born, what effect it has on the occurrence of stillbirth, and what conditions gave rise to a diagnosis of fibrosis if such is not a pathologic entity. Among the records of 700 placentas examined grossly and microscopically, he found 101 in which mention was made of increase in density of the connective tissue of the villous stroma, and fifty-four in which the deposit of fibrous tissue round the fetal vessels of the placenta appeared heavier than normal. A review of the cases in which diagnoses of "diffuse fibrosis of placental villi" and "perivascular fibrosis of placental vessels" were made reveals that the fetuses born at or near term were of average weight and that the rate of stillbirth was no higher than could be accounted for by other specific causes. A reconsideration of the histologic sections leads the author to doubt that either one of the lesions described is a pathologic entity. He sets forth several circumstances that confer on the placenta a false appearance of fibrosis: normal variation in architecture between different placentas, variation between individual sections of the same placenta, collapse of the vascular tree of the placenta and states of immaturity of the organ. Particular objection is raised to the practice of loosely applying the term "fibrosis" to indurated areas of the afterbirth. These areas are found on microscopic examination to be zones of necrosis or of intervillous thrombosis. Attention is directed to "lesions" of the syphilitic placenta: hyperplasia of the connective tissue stroma and vessel wall alterations. The author finds no disturbances here that can be directly attributed to syphilis as a disease. He interprets these "lesions" as evidences of arrest of development of the placenta due to arrest of fetal vitality. The same appearances were found in stillbirths of the same period due to other causes.

Intraspinal Alcohol Injections and Sympathectomy for Pain Associated with Carcinoma of Cervix.—In an attempt to analyze their results with both sympathectomy and alcohol injections for the relief of pain in carcinoma of the cervix, Greenhill and Schmitz selected their first forty sympathectomies and forty alcohol injections. The eighty women had group 3 or group 4 carcinoma of the cervix when they first came under observation. The comparison demonstrates conclusively that better results are obtained by means of intraspinal injections

of alcohol. In addition to the greater incidence of relief obtained by means of the alcohol injections, this procedure is far simpler than sympathectomy. Some women will not be benefited by intraspinal injections of alcohol. Practically all pain associated with carcinoma of the cervix can be relieved except that which is due to involvement of the upper part of the urinary tract in the form of hydro-ureter and hydronephrosis. This complication produces not only pain high up in the renal region but also severe discomfort in the parametrium on the affected side. The authors have not been able to stop this pain by intraspinal injections in the lumbar region. Whether injections made higher up (in the thoracic region) can do this they are not prepared to say, because they have not tried this as yet. Pain in the pelvis in cases of cervical carcinoma due to pyometra can readily be relieved by dilation of the cervix to permit drainage of the uterine cavity. Pain due to invasion of the bladder with or without fistula formation can be relieved by either pelvic sympathectomy or alcohol injection. However, obstruction or invasion of the ureter with hydro-ureter and hydronephrosis cannot be relieved except by nephrectomy. Pain due to extension into the parametrium with fixation can be relieved by alcohol injection but not by sympathectomy. Very late in the disease, pain is felt high up in the abdomen. This is due to extension of the disease above the sacrum into the aortic and iliac glands, the liver and elsewhere. This type of pain cannot be relieved by either sympathectomy or alcohol injections in the lumbar region. It is a good policy to inject alcohol intraspinally in all patients who have severe pain associated with carcinoma of the cervix, because even in women who have a hydronephrosis and other sources of pain some of the pain can be relieved.

Carcinoma of Retained Cervix or Subtotal versus Total Hysterectomy. — Meigs relates the incidence and nature of cancer appearing in the retained cervix following supravaginal hysterectomy and adds facts to the arguments of the advocates of total or of subtotal hysterectomy. The study itself revealed a lack of understanding of the meaning of total or panhysterectomy and of subtotal or supravaginal hysterectomy. Total or panhysterectomy should mean removal of the entire uterus, fundus, body and cervix. These facts are not universally known or remembered and a questionnaire asking specifically whether the cervix was removed or not in a given hysterectomy was necessary before accurate figures could be obtained. When this fact was established there was a great reduction in the total number of cases discovered. The most important considerations are the large proportion of nulliparas developing cancer of the retained cervix, the large proportion of cases with fibroids in the series and the small occurrence of this cancer as compared to the general impression in the literature of today. Conservative surgery should be the rule, and the life of the patient the most important consideration. Careful examination of the cervix in the operating room before deciding the type of operation to be performed is essential. Total hysterectomy cannot be advocated in every case, but it should be if the reasoning of its proponents is correct. Supravaginal hysterectomy should not be advocated for every case, as a badly lacerated and infected cervix is a menace. The decision should be made by the individual operator in each individual case. Nulliparous cervices are dangerous, and especially so are the cervices left behind in nulliparas who have had fibroids.

American Journal of Ophthalmology, St. Louis

19: 93-194 (Feb.) 1936

Headache: From Point of View of the Ophthalmologist. W. H. Crisp, Denver.—p. 93.
Sympathetic Ophthalmia: Part II. A. C. Woods, Baltimore.—p. 100.
Scientific and Practical Considerations Involved in the Near-Vision Test with Presentation of Practical and Informative Near-Vision Chart. J. E. Lebensohn, Chicago.—p. 110.
Studies on Infectivity of Trachoma: IV. On Bacteria Cultivable from Trachoma and Clinically Similar Conditions. R. W. Harrison and L. A. Julianelle, St. Louis.—p. 118.
Lipodystrophia Progressiva with Ocular Complications: Further Report. J. W. Charles and M. H. Post, St. Louis.—p. 126.
Ophthalmic Errors. H. Barkan, San Francisco.—p. 129.
Relation of Accommodation to Suppression of Vision in One Eye. G. A. Fry, St. Louis.—p. 135.
Nonsurgical Treatment of Nonparalytic Strabismus. S. V. Abraham, Los Angeles.—p. 139.
Management of Complications in Operation for Senile Cataract. H. W. Woodruff, Joliet, Ill.—p. 146.

American Journal of Surgery, New York

31: 193-396 (Feb.) 1936

Incidence of Gastric Cancer. L. I. Dublin, New York.—p. 197.
Beginnings of Gastric Cancer. J. Ewing, New York.—p. 204.
Gastric Cancer: Correlation of Roentgenologic and Pathologic Findings. L. G. Cole, New York.—p. 206.
*Early Symptomatology and Diagnosis of Gastric Cancer. S. Harris, Birmingham, Ala.—p. 225.
Anesthesia for Surgery of Gastric Cancer. J. T. Gwathmey, New York.—p. 237.
Gastric Resection for Carcinoma of Stomach. J. S. Horsley, Richmond, Va.—p. 240.
Treatment of Carcinoma of the Stomach: Summary of Results. F. B. St. John, A. O. Whipple and T. S. Raiford, New York.—p. 246.
Palliative Irradiation of Inoperable Gastric Cancer. G. T. Pack and Isabel M. Scharnagel, New York.—p. 247.
Bronchial Catheterization. S. A. Thompson, New York.—p. 260.
Use of Evipal Soluble in Obstetrics: Report of Fifty Operative Cases. F. A. Kassebohm and M. J. Schreiber, New York.—p. 265.
*Premedication and Inhalation Anesthesia for Tonsil and Adenoid Operations in Young Children: A Humane and Safe Method. J. T. Gwathmey, New York.—p. 272.
Early Diagnosis in Abdominal Surgery. E. L. Eliason, Philadelphia.—p. 275.
Meckel's Diverticulum: Analysis of Eighteen Cases: Report of One Tumor. R. B. Greenblatt, E. R. Pund and R. H. Chaney, Augusta, Ga.—p. 285.
*Use of Azochloramid in Infected Wounds. R. H. Kennedy, New York.—p. 294.
Calculous Anuria. J. Schwartz, New York.—p. 300.
Congenital Canals and Cysts of Genitoperineal Raphe. J. H. Neff, University, Va.—p. 308.
Rehabilitation of the Disabled. H. H. Kessler, Newark, N. J.—p. 316.
Relationship of Phospholipin Metabolism to Thrombo-Angiitis Obliterans and Its Treatment. H. M. Rabinowitz and J. Kahn, Brooklyn.—p. 329.

Early Symptomatology and Diagnosis of Gastric Cancer. — Harris points out that before the diagnosis of gastric cancer will be made early enough for much hope of cure from surgery most of the articles on ventricular carcinoma in the textbooks on medicine available to the general practitioner will have to be rewritten. The symptoms making up the generally accepted criteria for the diagnosis of cancer of the stomach, i. e., abdominal pain, nausea, vomiting, emaciation and anemia (cachexia), are late manifestations due to ulceration, secondary infection and obstruction; and, when they occur, in the majority of cases the patient has lost his chance for a cure by surgery or any other method of treatment. The earliest manifestation of gastric cancer in an individual more than 30 years of age, who is otherwise healthy, usually is what he calls "just a little indigestion." If such a person, as soon as he becomes stomach conscious, will consult the most capable gastro-enterologist or internist available, who will take time for a thorough study of his case including roentgen examination by an expert roentgenologist, the diagnosis may be made early enough for the patient to be cured by an operation. In a small proportion of cases cancer of the stomach becomes engrafted on gastric ulcer, though it is extremely rare for a duodenal ulcer to become malignant. Therefore, if the individual who has an ulcer of the stomach is not speedily relieved of symptoms, or if there is a recurrence of symptoms after rest and dietary management for a few weeks in a hospital under a capable and experienced clinician, he should have an operation with the hope of removing the precancerous ulcer before it becomes malignant. The annual or semiannual physical examination may reveal symptoms that would cause the well informed physician to suspect cancer of the stomach earlier than now is being done. Therefore, if the public can be taught the need for the annual or semiannual physical examination by capable physicians, there is hope of decreasing the present high death rate from cancer of the stomach.

Premedication and Inhalation Anesthesia for Tonsil and Adenoid Operations. — Gwathmey believes that the method described is safe because (1) premedication ensures a smooth induction of the anesthesia, (2) the anesthesia is at all times under perfect control, (3) the field of operation is dry and clear, and (4) postoperative contingencies and complications are eliminated. The basis for the technic presented rests on laboratory experimentation and clinical experience. It is desirable to give the child a sodium bicarbonate enema on admission. Thirty or forty minutes before operation, with the patient in bed, pentobarbital sodium dissolved in 1 ounce (30 cc.) of water is given by mouth, or rectally in 4 cc. of cold water

if swallowing is difficult. The dose varies according to the age, size and condition of the patient. Generally, in children up to 7 years of age 1½ grains (0.1 Gm.) of the drug is given; from 7 to 10 years, 2 grains (0.13 Gm.), more than 10 years of age, 3 grains (0.2 Gm.). For adolescents the dose of the barbiturate is preferably increased, or a suitable amount of a morphine derivative may be added. More than 90 per cent of the author's patients are asleep within fifteen minutes. With care in lifting the patient from the bed (which should be accomplished by means of sheets or lifter in preference to hands) to the stretcher, he reaches the operating room asleep. When time is essential, the operation may be performed while the patient is on the stretcher. A small pillow is placed under the shoulders and neck.

Use of Azochloramid in Infected Wounds.—Kennedy reports the results obtained in 108 cases of various infected wounds treated with azochloramid. Having tried various solutions and concentrations, he now uses only two preparations. Azochloramid solution 1 : 3,300 in physiologic solution of sodium chloride is used whenever irrigation or a wet dressing is desired. Azochloramid in triacetin 1 : 500 is used in all other circumstances, particularly for packing and dressing wounds with gauze which has been dipped in it. He suggests their use in the following general surgical conditions: 1. As a prophylactic in unclosed lacerated wounds, whether debrided or not. 2. As a prophylactic, in unclosed compound fractures after débridement. 3. As a prophylactic in abdominal operations, when owing to intraperitoneal infection it is believed advisable only to close the peritoneum and leave the remainder of the wound unsutured but packed with gauze. 4. In infected wounds and abscesses of all types, except when gross slough or foreign bodies are present and have not been removed. This does not refer to an abscess wall, which the author has seen come out in its entirety after a few days. 5. In preparation of burned areas for skin grafting. 6. As a continuous wet dressing over fresh pinch grafts.

Annals of Medical History, New York

8: 1-92 (Jan.) 1936

Domenico Cotugno. A. Levinson, Chicago.—p. 1.
Albrecht von Haller (1708-1777). O. Klotz, Toronto.—p. 10.
From Hippocrates to Ramazzini: Early History of Industrial Medicine. L. J. Goldwater, New York.—p. 27.
Infant Welfare as Taught in Philadelphia One Hundred Years Ago. N. Macneill, Philadelphia.—p. 36.
Discussion of Burton's "Anatomy of Melancholy." J. L. Miller, Chicago.—p. 44.
Pathologic Cabinet of the New York Hospital. C. T. Olcott, New York. —p. 54.
Galen's Writing and Influences Inspiring Them. J. Walsh, Philadelphia. —p. 65.

Archives of Internal Medicine, Chicago

57: 241-476 (Feb.) 1936

Pharmacologic and Therapeutic Properties of Crystalline Vitamin C (Cevitamic Acid), with Especial Reference to Its Effects on Capillary Fragility. I. S. Wright and A. Lilienfeld, New York.—p. 241.
*Adrenal Insufficiency Resulting from Partial or Total Atrophy of Adrenal Glands: Early Clinical Recognition. G. L. Weller Jr., Washington, D. C.—p. 275.
*Relation of Disease of Liver to Anemia: Type of Anemia, Response to Treatment, and Relation of Type of Anemia to Histopathologic Changes in Liver, Spleen and Bone Marrow. M. M. Wintrobe, Baltimore.—p. 289.
Neuritic Manifestations in Diabetes Mellitus. W. R. Jordan, Richmond, Va.—p. 307.
"Rest" and "Activity" Levels of Leukocytes in Health and in Disease. E. M. Medlar, Mount McGregor, N. Y.—p. 367.
Serum Calcium, Inorganic Phosphorus and Phosphatase Activity in Hyperparathyroidism, Paget's Disease, Multiple Myeloma and Neoplastic Disease of Bones. A. B. Gutman, T. L. Tyson and Ethel Benedict Gutman, New York.—p. 379.
*Neuropathy in Diabetes: Lipid Constituents of Nerves Correlated with Clinical Data. W. R. Jordan, Richmond, Va., and L. O. Randall, Rochester, N. Y.—p. 414.
Diseases of Metabolism and Nutrition: Review of Certain Recent Contributions. R. M. Wilder and D. L. Wilbur, Rochester, Minn.—p. 422.

Adrenal Insufficiency Resulting from Atrophy of Adrenals.—Weller believes that the cases presented not only stress the varied early manifestations of adrenal insufficiency but provide an adequate basis on which a description of its early symptomatology may be built. The clinical aspects, including both symptomatology and diagnosis of early adrenal insufficiency resulting from partial or total atrophy of the adrenals, are discussed. The features stressed are the existence of a definite but heretofore considered vague group of symptoms, from the time of onset to the termination of the destructive process in the adrenals; the manifestation of exacerbations in the adrenal insufficiency by nausea, vomiting, hypotension, hypoglycemia, drowsiness even to coma and atypical neurologic signs; the occurrence of exacerbations during periods of physical, emotional or endocrine stress; the frequent absence of pigmentation, and the relief of symptoms during the periods of exacerbation, in all but the terminal stages, by the administration of dextrose.

Relation of Disease of Liver to Anemia.—The observations recorded by Wintrobe indicate that in cases of hepatic disease, except when loss of blood or a complicating infection is present, anemia, when it develops, is either of the normocytic or of the macrocytic type. The macrocytic anemia observed is in many respects like pernicious anemia; although it is rarely as marked as the latter, it is morphologically similar, if not identical. Spontaneous remissions in the anemia may occur. Intramuscular liver therapy was followed in several cases by definite reticulocytosis and a decrease of anemia, such as occurs in cases of pernicious anemia. He assumes that the hepatic disease is the cause of the macrocytic anemia. In the cases of macrocytic anemia the hepatic disease was of such long duration and was so widespread through the organ that little functioning liver tissue remained. Macrocytic anemia appears to be especially common in cases of cirrhosis of the liver, and in this disease the illness is characteristically chronic and the lesions widespread. When damage to the liver is so extensive that storage is interfered with and when it has been of sufficient duration to permit exhaustion of the hematopoietic principle already present, macrocytic anemia develops. Experiments tend to support the belief that patients with disease of the liver and macrocytic anemia are able to utilize the extrinsic factor to form the hematopoietic principle. The ability to utilize the extrinsic factor may explain why in cases of hepatic disease with macrocytic anemia the anemia is rarely severe, and the consumption of various amounts of active hematopoietic principle may explain the fluctuations in the degree of anemia that have been so frequently observed. The foci of blood formation observed in the spleens of the patients who had hepatic disease with macrocytic anemia are of considerable interest because such foci have rarely been observed in adults except in cases of pernicious anemia, osteosclerosis and carcinomatous replacement of the bone marrow and in rare cases of sepsis. Among the cases (132) of hepatic disease described there were only two in which any of the conditions known to be associated with the development of extramedullary hematopoietic foci were discovered. In each of these cases one small vertebral metastasis was noted. It is possible that other bone metastases were present, which were not discovered. The presence of foci of extramedullary hematopoiesis in cases of chronic and widespread hepatic disease with macrocytic anemia is another point of similarity to pernicious anemia, in which, it has been already pointed out, blood formation in the spleen is common. The development of extramedullary blood formation may occur in the two instances as the result of the same fundamental abnormality; namely, a deficiency in a necessary hematopoietic principle.

Neuropathy in Diabetes.—Jordan and Randall made analyses of the various lipid constituents of fifty-two nerves from persons with diabetes and of twenty-three nerves from persons without diabetes. The average phospholipid, cholesterol and cerebroside content of the nerves from diabetic patients was considerably lower than that of the nerves used for controls. The nerves from the lower part of the legs of diabetic patients showed much greater damage than nerves from the pelvic level. This was not true in the one nerve from the lower part of the leg of a control subject as compared with the pelvic nerves from control subjects. The greater the vascular disease in a diabetic patient, the greater the damage to the nerves. In two patients without diabetes who had arteriosclerosis this pathologic change was not found, indicating that vascular disease is not the sole cause of neuropathy in diabetic patients. Previous inadequate control of the diabetes seems to affect the nerves

adversely to a slight extent. The severity and duration of the diabetes seemed not to affect the nerves, or else the effect was nullified by other factors. The chemical pathologic changes in the nerves of diabetic patients seemed to exceed or to precede the clinical manifestations of neuropathy. More complete studies of this chemical pathologic change to determine the effect of numerous factors are necessary before reliable statements can be made.

Archives of Pathology, Chicago

21: 127-264 (Feb.) 1936

Ulceration in Digestive Tract of Dog Following Intracranial Procedures: Preliminary Study. A. D. Keller, University, Ala.—p. 127.
Protection by Peripheral Nerve Section of Gastro-Intestinal Tract from Ulceration Following Hypothalamic Lesions: Preliminary Observations on Ulceration in Gastro-Intestinal Tract of Dog Following Vagotomy. A. D. Keller, University, Ala.—p. 165.
Ulceration in Digestive Tract of Dog Following Hypophysectomy. A. D. Keller and Marie C. D'Amour, University, Ala.—p. 185.
Alveolar Pores and Their Significance in Human Lung. C. C. Macklin, London, Ont.—p. 202.

Bulletin of Neurol. Inst. of New York, New York

4: 403-534 (Dec.) 1935

Unusual Types of Migraine. H. A. Riley, R. M. Brickner and S. E. Soltz, New York.—p. 403.
Autonomic Faciocephalalgia. R. M. Brickner and H. A. Riley, New York.—p. 422.
*Use of Orally Administered Ergotamine Tartrate, Amniotin and Phenobarbital in Treatment of Migraine. S. E. Soltz, R. M. Brickner, H. A. Riley and L. A. Salmon, New York.—p. 432.
Examination by Routine Laboratory Methods of Group of Patients Suffering from Migraine. H. A. Riley, S. E. Soltz, R. M. Brickner and C. C. Hare, New York.—p. 442.
Effects of Certain Experimental Lesions of Central Nervous System of Cats as Determined by Some Specific Tests of Motor Performance. M. N. Chappell and F. H. Pike, New York.—p. 451.
The Sense of Smell: VIII. Olfactory Fatigue. C. A. Elsberg, New York.—p. 479.
Id.: IX. (A) Monorhinal, Birhinal and Bisynchronorhinal Smell: Summation of Impulses in Birhinal Smell: (B) Some Facts Regarding Psychophysiology of Olfactory Sense. C. A. Elsberg, New York.—p. 496.
Id.: X. Detailed Description of Technic of Two Olfactory Tests Used for Localization of Supratentorial Tumors of the Brain. C. A. Elsberg and E. D. Brewer, New York.—p. 501.
Id.: XI. Value of Quantitative Olfactory Tests for Localization of Supratentorial Tumors of the Brain: Preliminary Report. C. A. Elsberg, New York.—p. 511.
*Treatment of Myasthenia Gravis by Oral Administration of Prostigmine. W. H. Everts, New York.—p. 523.
Bitemporal Hemianopia in Unilateral Cerebral Tumors: Report of Two Cases. R. T. Collins, New York.—p. 531.

Ergotamine Tartrate, Amniotin and Phenobarbital in Treatment of Migraine.—Soltz and his associates give the results of the treatment of a group of migrainous patients with oral ergotamine tartrate, oral amniotin (Squibb) and phenobarbital. Certain types of patients respond to certain forms of therapy. On the other hand, it has not been shown that any of these types are resistant to other forms of treatment. Oral ergotamine tartrate is effective in male adults with either simple or ophthalmic migraine and in children of either sex; all but one of the children in the series presented the ophthalmic type of migraine. It is effective in women who suffer from the simple type of migraine; no definite statement can be made as to its value in ophthalmic migraine occurring in women. It is useful in women who are in the menopause. Negro women respond well to oral ergotamine tartrate therapy. Oral amniotin is frequently useful in women who suffer from either the simple or the ophthalmic type of migraine. The existence of the menopause, whether natural or artificial, appears to be immaterial in the response to treatment with oral amniotin. No men or children were treated with oral amniotin. With both forms of treatment women who have never been pregnant respond better than other women. Women whose migraine did not start until after the last pregnancy respond well to amniotin; only two such patients were treated with ergotamine tartrate. Phenobarbital has been helpful in a small group of patients. Among these the ophthalmic type of attack predominates. No facts connected with abnormalities of menstruation or of the sella turcica appear to have any relation to success or failure with any of the modes of treatment. The age at the time of treatment, or at the onset of the condition, and the duration of the migraine also appear to be without such relation.

Physostigmine Derivative in Treatment of Myasthenia Gravis.—Everts reports two cases of myasthenia gravis that were relieved of symptoms and restored to health by the oral administration of a physostigmine derivative (prostigmine) continued for a period of months. The oral administration is effective and has distinct advantages over the hypodermic use of the drug. The best results were obtained by doses of 30 mg. given three times a day. The oral administration of the drug is safe, does not produce gastric or intestinal disturbances, can be continued for indefinite periods and is a satisfactory method of therapy in myasthenia gravis.

Canadian Public Health Journal, Toronto

27: 1-52 (Jan.) 1936

The Health Program of the Tennessee Valley Authority. E. L. Bishop, Knoxville, Tenn.—p. 1.
Some Problems of Poliomyelitis. J. Craigie, Toronto.—p. 6.
Public Health Education and National Health. G. Bates, Toronto.—p. 13.
Vaccination Against Tuberculosis with the BCG Vaccine. J. A. Baudouin, Montreal.—p. 20.
Scope for Improvement in Canadian Stillbirth Statistics. E. S. Macphail, Ottawa, Ont.—p. 27.
*Diarrhea and Typhoid Infections. Elizabeth Chant Robertson, Toronto.—p. 37.

Diarrhea and Typhoid Infections.—Robertson cites the following: 1. Of a group of nine boys who drank unboiled river water, eight developed gastro-intestinal disturbances within forty-eight hours; the ninth did not show any early reaction but developed paratyphoid seven days later. 2. Of a family of seven who were exposed to a case of typhoid, four showed early gastro-intestinal disturbances, one showed no ill effects but had had typhoid previously, and one had no early upset but developed typhoid ten days later. The seventh member of the family, an infant, showed no symptoms. 3. Of a large group of children, an unknown number of whom were exposed to infection with Bacillus typhosus, about 30 per cent developed gastro-intestinal disturbances within forty-eight hours after exposure. Eleven of the children developed typhoid and only one or possibly two of these showed any early reaction after exposure. It is possible that the immediate gastro-intestinal reaction prevents the typhoid bacilli from invading and setting up a severe infection.

Indiana State Medical Assn. Journal, Indianapolis

29: 57-108 (Feb. 1) 1936

Some Changing Concepts Regarding Endometrium and Their Significance. V. S. Counseller and W. E. Herrell, Rochester, Minn.—p. 57.
Encephalitis. L. D. Carter, Indianapolis.—p. 63.
Cataract Formation Occurring Following Use of Dinitrophenol. H. E. Hill, Muncie.—p. 67.
Osteotomy and Arthroplasty for Bony Ankylosis of Left Temporomandibular Joint of Twenty Years' Duration. F. A. Loop, Lafayette.—p. 70.
Present Status of Prostatic Resection. W. W. Hewins, Evansville.—p. 73.

Iowa State Medical Society Journal, Des Moines

26: 65-122 (Feb.) 1936

Diseases of Lymph Nodes. W. S. Middleton, Madison, Wis.—p. 65.
The Heart in Relation to Surgery and Anesthetics. H. W. Rathe, Waverly.—p. 75.
The Heart and Deficiency Diseases. E. E. Kottke, Des Moines.—p. 79.
*Diagnosis of Carcinoma of Pancreas. C. A. Sones, Des Moines.—p. 82.
Gastrojejunal Ulcer. W. H. Gibbon, Sioux City.—p. 84.
Injuries to the Spine. A. F. O'Donoghue, Sioux City.—p. 86.
Injuries to the Hand. V. A. Ruth, Des Moines.—p. 90.
Diagnosis of the More Common Forms of Paralysis. F. J. Rohner, Iowa City.—p. 92.
New Therapeutic Agents and Their Practical Value in Otolaryngology. J. A. Thorson, Dubuque.—p. 95.

Diagnosis of Carcinoma of Pancreas.—Sones points out that there is no clinical syndrome singularly characteristic of carcinoma of the pancreas. There are no physical, laboratory or roentgen signs which in themselves are final in the diagnosis. In a case of cachexia with loss of weight and strength, deep progressive jaundice, hard boring epigastric pain radiating to the back and affected by posture, palpable epigastric tumor which is fairly well fixed and tender, palpable gallbladder, abnormal blood sugar level and positive roentgen observations, one has all the cardinal symptoms and signs present for a reasonably accurate clinical diagnosis of carcinoma of the pancreas; but the actuarial computation by percentages would

reveal the fact that all these features are present in the same case in only one out of at least 200 cases. In the great majority of cases many of these are lacking or indefinite, so that a satisfactory diagnosis is difficult or impossible; but it seems fair to say that with cachexia, weight and strength loss as one, in addition to any two of the remaining features, one has sufficient evidence for a presumptive diagnosis.

Journal of Lab. and Clinical Medicine, St. Louis

21: 445-550 (Feb.) 1936

Accelerating Factors in Chronic Hypertrophic Arthritis (Osteo-Arthritis). R. L. Haden and W. A. Warren, Cleveland.—p. 448.

Bacteriologic and Immunologic Studies in Arthritis: I. Results of Blood Cultures in Different Forms of Arthritis. C. McEwen, R. C. Alexander and J. J. Bunim, New York.—p. 453.

Id.: II. Results of Various Immunologic Tests in Different Forms of Arthritis. C. McEwen, J. J. Bunim and R. C. Alexander, New York.—p. 465.

*Protein Studies in Atrophic (Rheumatoid) and Hypertrophic Arthritis. J. S. Davis Jr., New York.—p. 478.

Home Treatment of Chronic Arthritis by Physical Therapy. J. S. Coulter, Chicago.—p. 497.

*Chronic Atrophic Arthritis: Effect of High Carbohydrate Diet and Insulin on Symptoms and Respiratory Metabolism. B. D. Bowen and L. M. Lockie, Buffalo.—p. 505.

Present Status of Fever Therapy in Treatment of Gonorrheal Arthritis, Chronic Infectious (Atrophic) Arthritis, and Other Forms of "Rheumatism." P. S. Hench, Rochester, Minn.—p. 524.

What Can Be Expected from Orthopedic Care of Arthritis? L. T. Swaim, Boston.—p. 532.

*Treatment of Atrophic (Rheumatoid) Arthritis with Leukocyte Concentrate. E. F. Hartung, New York.—p. 536.

Use of Cinchophen in Treatment of Chronic Arthritis. R. G. Snyder, C. H. Traeger, C. A. Zoll, L. C. Kelly and F. J. Lust, New York.—p. 541.

Protein Studies in Atrophic and Hypertrophic Arthritis.—Davis determined the total plasma protein, albumin, globulin, fibrinogen, globulin fractions pseudo I and II, and euglobulin and sedimentation rate on ninety subjects. His paper deals only with changes occurring at various stages of arthritis. The globulin fraction tends to rise in atrophic (rheumatoid) arthritis. The greatest change takes place in the euglobulin fraction. Albumin tends to fall in atrophic arthritis. There is little if any change in the protein fraction of those ill with hypertrophic arthritis. Evidence is presented to show that atrophic arthritis is an infectious disease, while hypertrophic arthritis is not. Theoretically, a diminished sedimentation rate is not always an accurate index of improvement as accomplished by vaccine, for a rise in globulin has been produced by certain vaccines and this alone might increase the sedimentation rate. This has not been the author's experience in using hemolytic streptococcus vaccine. The fibrinogen content usually rises in atrophic arthritis, but not in proportion to the globulin rise. Restriction of protein in the diet of the atrophic arthritic patient might at times be dangerous. Vitamin deficiency and malnutrition may play a part in the protein changes in atrophic arthritis.

Chronic Atrophic Arthritis and Effect of Diet and Insulin on Symptoms and Respiratory Metabolism.—Bowen and Lockie observed eight women, from 18 to 65 years of age, with advanced atrophic arthritis, for a period of from fifteen to sixty-five weeks during which time they were fed a high carbohydrate diet. The patients had lost from 25 to 50 pounds (11.4 to 22.7 Kg.). Seven of the patients received insulin for the purpose of observing its action on increasing appetite and the influence of the reduction of blood sugar on the arthritis. All patients were observed for varying periods on the diet alone before insulin was administered. Carbohydrate was given to them in many forms. After this preliminary study further nutrition was attempted by the use of insulin up to the point of the patient's tolerance. The weight curve was not conspicuously higher during the period of insulin administration, nor was the amount of food ingested greatly increased. Following the sudden withdrawal of insulin, saline solution subcutaneously was substituted. The first three patients, who had been under observation for the longest periods, made the greatest weight gains, 42, 50 and 24 pounds (19, 22.7 and 11 Kg.). They also made the greatest clinical improvement. Two patients, even though they did ingest adequate calories, failed to gain; both had the maximal devastation of the disease. One patient, who had gained a lesser amount, also improved remarkably. Clinical improvement that was observed in these patients cannot be ascribed to a single measure, because several factors were obviously operating—rest, freedom from worry and exposure, and a large amount of vitamin C. As far as possible, other adjuncts were employed in a minimal degree. The high carbohydrate diet did not produce any exacerbation of the arthritic process. The respiratory metabolism was studied in seven of the cases. Only one patient had a temporary slight lowering of the rate, which was possibly due to an antecedent respiratory infection. The rates were found to be steady throughout the period of observation and were uninfluenced by increasing body weight. The trend of the postabsorptive respiratory quotients, even though they showed in some cases rather wide variations, was approximately level throughout. The quotients during the periods of insulin administration were not altered. The average quotient was found to be slightly higher than that of persons who eat the ordinary mixed American diet. It then seems that the seven patients were able to use carbohydrate normally. The authors do not believe that a high carbohydrate diet has any special efficacy in the treatment of chronic atrophic arthritis, but they do stress the importance of overnutrition in the management of such patients when they are undernourished.

Treatment of Atrophic Arthritis with Leukocyte Concentrate.—Hartung used leukocyte concentrate in atrophic (rheumatoid) arthritis because of the nucleic acid content of these cells and because he thought that normal leukocytes might contain a hormone lacking in patients with atrophic arthritis. Ten patients with atrophic arthritis were selected by the usual criteria. Their condition ranged in severity from markedly generalized, crippling deformity in a child 10 years of age to mild but definite arthritis in elderly subjects. No case can be considered cured. Six patients show decided symptomatic and general constitutional improvement. In the remaining four patients, improvement was only slight or questionable. Improvement consisted of a decrease in pain, an increase in joint motion and a feeling of increased strength and well being. These changes were not, however, accompanied by improvement in the blood picture or in the sedimentation rate. It is clear to the author that intragluteal injections of leukocyte concentrate have a definite beneficial effect in some cases of atrophic arthritis. The effect is apparently in no way specific. In view of the lack of change in the sedimentation rate, it appears that its effect is constitutional and only indirectly affects the arthritis. Its mode of action is obscure. The amount of nucleic acid present in the injected leukocytes is not sufficient to affect the blood picture. The beneficial effect may be purely a nonspecific protein reaction, but the effect was obtained more quickly, was more lasting and in every way far superior to that obtained by any foreign protein used previously by him.

Journal of Pharmacology & Exper. Therap., Baltimore

56: 1-116 (Jan.) 1936

Relation Between Action and Concentration of Ether and Camphor Applied to Heart Muscle. M. A. F. Sherif, Cairo, Egypt.—p. 1.

Effect of Posterior Pituitary Preparations on Colloid Osmotic Pressure of Serum Protein, Water and Mineral Metabolism of Dogs. K. Yanagi, Rochester, N. Y.—p. 23.

Respiratory Effects of Morphine, Codeine and Related Substances: V. Effect of α, β, γ, Dihydro-α, Dihydro-β-and Dihydro-γ-Isomorphine on Respiration of Rabbit. C. I. Wright and F. A. Barbour, Ann Arbor, Mich.—p. 39.

Anthelmintic Studies on Alkylhydroxy-Benzenes: VI. Alkyl Polycyclic-phenols. P. D. Lamson, R. W. Stoughton and A. D. Bass, Nashville, Tenn.—p. 50.

Toxicity and Rate of Disappearance of Intracisternally Injected Calcium Salts in Dog. M. F. Mason and H. Resnik, Nashville, Tenn.—p. 53.

Anthelmintic Studies on Alkylhydroxy-Benzenes: VII. Halogenated Phenols. P. D. Lamson, R. W. Stoughton and A. D. Bass, Nashville, Tenn.—p. 60.

Id.: VIII. A. Phenolic Ketones; B. Phenolic Ethers and Esters; C. Organic Acids. P. D. Lamson, R. W. Stoughton and A. D. Bass, Nashville, Tenn.—p. 63.

Observations on Effects of Dihydromorphinone-Hydrochloride (Dilaudid) on Intact Uterus of Animals Anesthetized by Cerebral Anemia. J. B. Mitchell Jr. and D. S. Pankratz, Memphis, Tenn.—p. 69.

Antagonism Between Cardiac Action of Acetyl-β-Methylcholine and Acetylcholine, and That of Quinidine: Note. I. Starr Jr., Philadelphia.—p. 77.

Use of Bulbocapnine in Preanesthetic Medication. H. Molitor, Rahway, N. J.—p. 85.

Some Observations on Effect of Drugs on Ear Vessels of Unanesthetized Rabbit, as Seen in "Preformed-Tissue" Chamber. Helene C. Wilson, Philadelphia.—p. 97.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

20: 1-64 (Jan.) 1936

Electrical Response of the Eye to Light. J. Parsons.—p. 1.
Varicella of the Cornea. R. Pickard.—p. 15.
Chlorosis with Ocular Complications: Case. J. B. Hamilton.—p. 18.
Tremulous Lens. A. W. D'Ombrain.—p. 22.
Tuberculosis of Choroid Associated with Generalized Miliary Tuberculosis. F. Tooke.—p. 23.
Glutathione in Blood in Senile Cataract and Other Ocular Conditions. Dorothy Adams Campbell.—p. 33.
Localization of Retinal Hole. J. A. Van Heuven.—p. 39.

British Journal of Urology, London

7: 313-438 (Dec.) 1935

Significance of Vesical Diverticula. R. H. O. B. Robinson.—p. 313.
Transurethral Resection of Malignant Prostate: Review of Fifteen Cases. A. Jacobs.—p. 321.
Ruptured Abdominal Aortic Aneurysm Simulating Perinephric Abscess: Report of Case. C. Rusche and S. K. Bacon.—p. 330.
Treatment of Bilharzia Infection by the Urologist. F. G. Cawston.—p. 333.
Uremic Ulcerative Colitis Following Cystoscopy. A. L. d'Abreu and A. C. Lysaght.—p. 336.

Journal of Laryngology and Otology, London

51: 1-76 (Jan.) 1936

*Defenses of the Air Passages (Semon Lecture 1935). S. C. Thomson.—p. 1.
Laryngeal Disease of the Emperor Frederick. L. Colledge.—p. 31.

Defenses of Air Passages.—Thomson limits his review of the defenses of the airways to the local means of protection in normal conditions of health. These are reinforced by such prophylactic weapons—particularly in disease—as antitoxins and other antibodies, opsonins and phagocytosis, bacteriolysins, leukins and other germicidal substances, and the army of reserve defenses that maintain the normal state of immunity. These local defenses are so effective in health that it is difficult to produce pulmonary infections by inhalation or insufflation of organisms under normal conditions. He discusses the complexity and perfection of these defenses and hopes to encourage interest in normal processes as a necessary first step to the study of disease. Biology is opening up possibilities of discoveries that will enlarge the conquests of Pasteur, Koch and Lister. This may lead to knowledge that will avert or cure many of the common human ailments. These studies should help to explain why the removal of a focus of infection or why operations, however radical and brilliant, sometimes fail to cure.

Lancet, London

1: 1-66 (Jan. 4) 1936

*Therapeutic Action of Iron. L. J. Witts.—p. 1.
*Gastric Acidity and Its Significance: Clinical and Experimental Study. F. L. Apperly.—p. 5.
Inhibitory Effect of Follicular Hormone on Anterior Lobe of Pituitary Gland. B. Zondek.—p. 10.
Intravenous Curarine in Treatment of Tetanus. R. West.—p. 12.
Mercurial (Novurit) Suppository as Diuretic for Cardiac Edema. J. Parkinson and W. A. R. Thomson.—p. 16.
Hypervitaminosis D. L. Thatcher.—p. 20.
Bacillus Aertrycke Food Poisoning Due to Contamination of Food with Excreta of Mice. E. R. Jones and H. D. Wright.—p. 22.

Therapeutic Action of Iron.—According to Witts, iron is absorbed chiefly in the duodenum, but the stomach and the whole of the small intestine may take part. The upper part of the alimentary tract is an all-important area in hematopoiesis; the surgeon should avoid too ruthless an exploitation of this territory. In health the absorption of iron by the stomach and small intestine may be expected to be equalized by the loss through the colon. The administration of iron to normal men does not affect the blood count, but much of the iron may be retained in the body. There is a minimal effective dose of iron. In addition to the physiologic states that increase the requirement of iron, there are pathologic conditions that impair its absorption and give rise to a "conditioned deficiency." The most important is achlorhydria. The therapeutic action of iron can be enhanced by certain procedures that facilitate the absorption of iron. Bethell and his co-workers showed that a dosage of 300 mg. a day of reduced iron was ineffective when given in three divided doses of 100 mg. but was effective when given in ten divided doses of 30 mg.; this seems to be a pure absorption phenomenon. In experimental animals iron can be absorbed and stored in the liver but cannot be converted into hemoglobin unless copper also is present; this is apparently a pure utilization phenomenon. It is difficult to demonstrate the action of copper in man, in whom deficiency of copper is excessively rare. The "average effective dose" of a preparation of iron may be defined as the dose that produces an average increase of more than 1 per cent of hemoglobin a day in a sufficiently large sample of patients with achlorhydria and anemia, when the initial hemoglobin level does not exceed 50 per cent and when the period of observation is not less than twenty-five and not more than forty days. Iron is most active when given by injection, but in practice parenteral administration is contraindicated by its dangers. The therapeutic dose of iron by injection (iron and ammonium citrate equivalent to 32 mg.) is so close to the toxic dose (from 48 to 80 mg.) that effective treatment can hardly be given by this route. The therapeutic activity of preparations of iron by mouth is proportional to their solubility and to the ease with which they yield free ions of ferrous iron. The soluble ferrous salts are the most active. The utilization of an average effective dose of ferrous iron is approximately 20 per cent, and, if minimal effective doses of ferrous iron are prescribed, between 50 and 100 per cent of the dose ingested may be utilized for hemoglobin formation. Reticulocyte crises and repair of anemia may be observed with a daily dosage as low as 22 mg. of ferrous iron by mouth. To a large extent, iron is used to repair deficiencies that would not have occurred had the diet been satisfactory.

Gastric Acidity and Its Significance.—Apperly suggests that hyperchlorhydria and the symptoms associated with it might be diminished by removal to a warm climate, artificial fever, heat treatment, bleeding and the substitution of oxides and nonabsorbable bicarbonates for the usual sodium bicarbonate treatment, since the latter salt in large amount, by increasing plasma carbon dioxide, may actually raise gastric acidity. Certain of the hypo-acid dyspepsias are more likely to be influenced by attention to the underlying anoxemia or acidosis than by direct local treatment. A search for the causes of a low plasma carbon dioxide may be fruitful, since it may give a clue to the underlying pathologic conditions. In dealing with cases in which achlorhydria or hypochlorhydria is associated with anemia, it might be well to investigate which of these conditions is primary—i. e., whether one is dealing with an anemic achlorhydria or an achlorhydric anemia (Witts). Gastric acidity after a meal is chiefly a function of the blood carbon dioxide. In normal persons this is regulated by the hemoglobin content of the blood, by the ratio of the pulmonary vital capacity to body weight (or surface) and by temperature. Under abnormal conditions anoxemia, anemia, altitudes, pregnancy, nephritis, fevers, diabetes, severe exercise and lowered physical fitness may diminish plasma carbon dioxide and therefore gastric acidity. Asthma and emphysema, which raise plasma carbon dioxide, would be expected to raise gastric acidity; while encephalitis, irradiation and certain cardiac conditions, which lower plasma carbon dioxide, would be expected to lower gastric acidity; but these effects have not been investigated. The acidity of the gastric juice is a rough measure of the alkali reserve of the blood (except in marked anemia), while the rate of gastric evacuation would seem to be influenced partly, at least, by blood p_H. A consideration of the possible causes of such variations of plasma carbon dioxide and p_H may give valuable hints as to the pathologic conditions underlying certain dyspepsias. There is a direct relationship between the red cell content of the blood and gastric acidity. When the former falls to about half or two-thirds normal (on the average), free acid disappears from the stomach. A distinction is therefore made between the achlorhydric anemia of Witts and anemic achlorhydria.

Medical Journal of Australia, Sydney

1: 1-40 (Jan. 4) 1936

Doctors and Specialists and the Common Weal. M. G. Sutton.—p. 1.
Relationship of Vitamins to Normal Health. M. L. Mitchell.—p. 7.
Reactions of Three Hundred and Fifty Children to Diphtheria Anatoxin. A. A. Merritt.—p. 14.

Practitioner, London

136: 1-120 (Jan.) 1936

Treatment of Lobar Pneumonia. A. J. Hall.—p. 1.
Influenza. A. J. S. Pinchin and H. V. Morlock.—p. 11.
The Common Cold: Its Prevention and Cure. E. P. Poulton, in collaboration with F. A. Knott.—p. 24.
The Management of Otitis Media and Sinusitis Complicating the Common Cold. L. Colledge.—p. 33.
Acute Sore Throat. E. Watson-Williams.—p. 37.
Chronic Cough in Children. W. G. Wyllie.—p. 52.
Effects of Winter on Chronic Rheumatic Conditions. J. B. Burt.—p. 62.
Winter Dermatoses. H. Haldin-Davis.—p. 70.
What Is Disease? F. P. Weber.—p. 76.
Treatment of Stammering. C. MacMahon.—p. 84.
Hemolytic Streptococcic Fever. F. Ind.—p. 91.
The Misuse of Some Common Remedies. C. Hoyle and J. W. Linnell.—p. 94.
Favorite Prescriptions: XIII. The Pharmacopeia of Guy's Hospital. N. Mutch.—p. 103.

Quart. Bull., Health Org., League of Nations, Geneva

3: 325-530 (Sept.) 1934

Therapeutic Efficacy of Totaquina in Human Malaria: I. Clinical Tests Carried Out Under Auspices of Malaria Commission. E. J. Pampana.—p. 328.
Id.: II. Critical Analysis of Results Achieved. W. Fletcher.—p. 344.
Stockholm Garden Settlements. C. Lindhagen.—p. 359.
Investigations on Heavy Muscular Work. E. H. Christensen, A. Krogh and J. Lindhard.—p. 388.
*International Study of Statistical Results of Radiologic Treatment of Cancer of Uterus: Report of Conference of Experts, Held at Zurich, July 21-23, 1934.—p. 418.
Second Conference on Vitamin Standardization Held in London from June 12 to 14, 1934.—p. 428.
Observations on Invasion of Wieringermeerpolder by Anopheles Maculipennis. N. H. Swellengrebel and J. A. Nykamp.—p. 441.
Effects of Economic Depression on Population of Vienna. A. Götzl, W. Kornfeld and E. Nobel.—p. 461.

Radiologic Treatment of Cancer of Uterus.—The recommendations of the conference are that: 1. The Health Organisation should for the present limit its collection of statistical data to cancer of the cervix uteri. 2. The Health Organisation should aim at producing annual statistical statements regarding results of five years (and possibly results for later years) of radiotherapy of cancer of the cervix. An agreed table for this purpose, which may be termed the "survival table," is annexed, with relevant notes. 3. The annual statistical statement would comprise statements supplied by the "national correspondents" of those countries in which information from the most important institutes can be effectively collected and submitted by a single correspondent, and when not possible, or in special circumstances, by an "institutional correspondent." 4. The Health Organisation should take the further steps necessary to arrange for the effective collaboration of national and institutional correspondents on this basis. To aid it in the preparation of its annual statistical statement, and for other purposes, the Organisation should obtain the aid of a small body of experts. 5. The primary object of the proposed annual statistical statement is to provide a convenient work of reference for those who need to know what can be said statistically with regard to the results obtained by the application of radiotherapy to patients suffering from cancer of the cervix uteri, when the agreed rules for the setting up of statistics have been observed and full account is taken of the following up of treated cases and the records of their after-histories. 6. The material now available or being obtained would permit the preparation of the first annual statement at an early date; its appearance in 1936 seems practicable and desirable. The material for the first annual statement would consist in part of data from institutions which have complied with the request made to them by the Health Section of the League as a result of the report of the Radiological Sub-Commission in 1929. 7. The discussions at the conference have shown that, even under the simple system proposed, doubts will arise about the tabulation of particular cases or as to the interpretation of the rules suggested for the keeping of the survival tables. They have also shown that provision must be made for considering the application of the statistical statements to new knowledge obtained in the future. So far, however, as such questions require expert opinion, they can be dealt with as they arise, with the aid of the expert advisory body that has been proposed.

Journal de Chirurgie, Paris

47: 1-176 (Jan.) 1936

Action of Stomach After Gastrectomy. J. Sénèque and C. Marx.—p. 1.
*Immediate and Late Results of Chordotomy. I. S. Babtchine.—p. 26.
Anatomoclinical Study of Thyroid Cancers. J.-J. Herbert.—p. 40.

Results of Chordotomy.—Babtchine discusses some of the previous work on chordotomy of the anterolateral tract for intractable pain and presents his results in thirty-four cases in which forty-seven chordotomies were performed for this reason. In sixteen (nineteen chordotomies) the reason was malignant tumors. In twelve (twenty chordotomies) the operation was performed for meningoradiculitis or neuritis; in five (six chordotomies) for pain following amputation, and in one (two chordotomies) for tabetic pains. The early and late results are discussed in detail. He concludes that chordotomy is so valuable in the treatment of these pains that it cannot be replaced by any other operative procedure. The most favorable results are obtained in malignant tumors and the least favorable in the pains following amputation. In order to stop the pains with the maximum of certainty, he recommends bilateral chordotomy. This should be done more often not only in the presence of malignant tumors but in other types of painful conditions as well. Many of these will yield to the bilateral operation although still present after the unilateral one.

Presse Médicale, Paris

44: 1-24 (Jan. 1) 1936

Treatment of Cancer of Bladder. R. Gouverneur and R. Dossot.—p. 1.
Humoral Pathology of Malaria. A. Radosavlievic.—p. 4.
*Epituberculosis and Its Manifestations in Adults. R. Benda and H. Mollard.—p. 6.
Variability of Erythrocyte Sedimentation. V. Kaminski.—p. 8.

Epituberculosis in Adults.—Benda and Mollard define perifocal infiltration as an inflammatory reaction around a focus and epituberculosis as an inflammation so large around a focus so tiny that the relations between cause and effect are apparently reversed. Stated in another way, the latter reaction has an importance apart from the focus around which it developed. There is thus no essential reason why epituberculosis should not develop in adults as well as in young people. In corroboration of this view they recently observed two adult patients in whom the roentgen and physical examination demonstrated this type of reaction. These patients did not show any other tuberculous focus. Furthermore, they state that in tuberculous patients who are regularly followed it is not unusual to see sudden pulmonary condensations, which quickly disappear and involve another region of the lung. Finally, epituberculosis in adults is sometimes seen following therapeutic procedures. The authors conclude that their conception of epituberculosis is more general and more elastic than that of most and comprises all the perifocal reactions which reveal a focus while temporarily concealing it. It appears inexact to them to limit epituberculosis to a certain age, a slow evolution or a silent roentgenologic period.

Archivio Italiano di Chirurgia, Bologna

41: 773-884 (Dec.) 1935

Ureterosigmoid Anastomosis: Experiments with Higgins' Technic. L. Caporale and G. Psacharopulo.—p. 773.
Essential Arterial Hypertension Treated by Resection of Left Splanchnic Nerve: Case. C. Ciceri.—p. 816.
*Alterations of Glycogenic Functions of Liver in Associated Syndromes of Right Side of Abdomen. A. Lauro.—p. 825.
Suppurative Apophysitis: Cases. F. Leinati.—p. 844.
Diagnosis of Crural Hernia. P. Ljvraga.—p. 869.

Glycogenic Functions of Liver.—Lauro gives the name of associated syndrome of the right side of the abdomen to a complicated pathologic process of diffuse alterations of several abdominal organs of the right half of the abdomen. He made determinations of the glycolytic functions of the liver by means of the test of provoked hyperglycemia, after the administration of levulose or dextrose, in three groups of patients suffering from different types of syndrome of the right side of the abdomen (simple or in association with duodenal ulcers or cholecystitis). The author reaches the following conclusions: There is a disturbance of the metabolism of the carbohydrates

in all patients with a syndrome of the right side of the abdomen. The metabolic disturbance is more intense in the complicated type (duodenal ulcer or cholecystitis) than in the noncomplicated type of the syndrome. Levulose, used in producing hyperglycemia, gives more precise results on the glycolytic functions of the liver than dextrose given for the same purpose (83 and 38 per cent, respectively). The insufficiency of the glycolytic functions of the liver does not indicate by itself complete liver insufficiency, but, added to the insufficiency of other liver functions under the same condition reported in the literature and to the anatomic alterations seen in the liver of those patients by Leotta and Rindone, it shows that the liver is more or less involved in the pathologic process. The author points out the advisability of performing determinations of the liver functions in all patients with a syndrome of the right side of the abdomen, previous to the performance of any abdominal operation, with the aim of preventing a postoperative complication from liver insufficiency that existed before the operation but was not diagnosed.

Dermatologische Wochenschrift, Leipzig

102: 125-164 (Feb. 1) 1936

Etiology of Chronic Migrating Erythema. H. Askani.—p. 125.
Leukopathia Reticularis with Atypical Angiomatosis, Livedo Reticularis Perstans and Bronze Diabetes. W. Milbradt.—p. 131.
*Suction Treatment of Acne Vulgaris. A. Skutta.—p. 137.

Suction Treatment of Acne Vulgaris.—Skutta thinks that, although general factors play a part in the development of acne vulgaris, the cutaneous manifestations are nevertheless greatly influenced by local conditions. He shows that the obstruction of the sebaceous glands (comedo), that is, the retention of the cutaneous sebum, is the cause of the local symptoms. In view of the mechanical nature of this process, a mechanical therapy seems indicated, which formerly was effected chiefly by means of expression. However, since expression was not quite satisfactory, the author devised a suction method. He shows that since the vacuum, in addition to its mechanical, also exerts a biologic, action on the tissues, the treatment by means of a vacuum is really more than just a mechanical treatment. Besides counteracting the retention of sebum, it also has a favorable effect on inflammatory manifestations. After showing how the retention of sebum causes the cutaneous symptoms of acne, the author describes the various forms of suction cups that he attaches to the apparatus. He uses different types of cups for the cystic retention of sebum, for the removal of comedones and for the treatment of the inflammatory manifestations. The suction apparatus can be operated with the water vacuum pump or with an electric pump. In addition to the local suction treatment the author also employs general causal measures (dietetic, endocrine and so on). Three years of experience with the combined suction and general treatment convinced him that it produces good results and especially reduces the cosmetic defects that are connected with acne.

Deutsche medizinische Wochenschrift, Leipzig

62: 209-248 (Feb. 7) 1936. Partial Index

Hyperergy. F. Klinge.—p. 209.
*Roentgen Reaction Elicited by Barbituric Acid Derivative. E. Uhlmann.—p. 216.
Experimental Investigations on Efficacy of Diphtheria Serums. R. Prigge and L. Kicksch.—p. 217.
Present Status of Experiences with Meinicke Clarification Reaction II in Cerebrospinal Fluid. K. H. Dombrowsky.—p. 219.

Roentgen Reaction Elicited by Medicament.—Uhlmann describes the history of a woman, aged 45, who received roentgen irradiations on account of uterine carcinoma. The roentgen rays were applied to one abdominal field and two dorsal fields. No cutaneous disturbances developed in the course of the irradiations, but ten days after the last ray treatment the irradiated regions showed an intense erythema and the entire body became covered with a scarlatiniform exanthem, which was especially severe on the sides of the trunk and on the thighs. The eyelids were swollen and the lower parts of the legs were edematous. At times the skin was extremely itchy. The patient felt poorly. On the basis of the clinical manifestations a medicinal toxicoderma was thought of. At first the patient stated that she had not taken anything but finally admitted that she had taken sleeping powders (barbituric acid derivatives). It could not be definitely determined how large the doses had been, but there were indications that she had taken more than eight tablets daily. The further course of the disorder definitely confirmed the diagnosis of medicinal toxicoderma, for after the patient discontinued taking the tablets the cutaneous manifestations disappeared. The author points out that not only the patient and her relatives but also a physician had considered the disorder a generalized roentgen exanthem. To be sure, the author concedes the possibility of the development of a generalized exanthem following irradiation with roentgen rays, but he doubts that the roentgen rays are the only cause of such exanthems, pointing out that in all the cases which came under his observation either an accidental concurrence of septic exanthems with the irradiation or a suddenly developing erythroderma in psoriasis could be demonstrated, so that the roentgen irradiations at most could be suspected of being an eliciting factor. In thousands of cases the author never found a true generalized roentgen exanthem and he says that other authors and large institutes report the same.

Klinische Wochenschrift, Berlin

15: 145-184 (Feb. 1) 1936. Partial Index

*Influence of Vitamin C on Pathologically Changed White Blood Picture. H. Eufinger and G. Gaehtgens.—p. 150.
Cause of Inhibition of Isohemagglutination in Fresh, Undiluted Serum. T. Andersen.—p. 152.
Investigations on Alimentary Hyperglycemia in Cerebral Concussion and in Other Disturbances of the Brain. A. Schweers.—p. 155.
*Studies on Origin and Clinical Significance of Basophilic Stippling of Erythrocytes. H. Rosegger.—p. 158.
Use of Color and Luminescence Comparator of Rojahn-Heinrici in Physiologic Chemical Studies. R. Seifert.—p. 162.
*Abnormal Diastase Values and Blood Sugar Content. G. Jorns.—p. 167.

Influence of Vitamin C on Blood Picture.—Eufinger and Gaehtgens, after pointing out that vitamin C has been found helpful in various forms of capillary hemorrhages and in gynecologic bleedings, call attention to an observation indicating that vitamin C also exerts a favorable influence on the white blood picture. They describe the clinical history of a woman, aged 35, who had a myeloid leukemia. By means of the intravenous injection of large doses of cevitamic acid (100 mg. twice daily for ten days) it proved possible nearly to normalize the white blood picture in a comparatively short time and also to exert a favorable influence on the red blood picture. The woman recovered and was able to work again. Various factors seem to indicate that an action on the bone marrow is chiefly responsible for the efficacy of this treatment.

Basophilic Stippling of Erythrocytes.—Rosegger points out that basophil stippling of the erythrocytes was first observed by Askanazy in the blood of anemic patients but that after Sabrazès called attention to its significance in the diagnosis of lead poisoning it was regarded by many as proof of an existing lead poisoning. The author considers this opinion erroneous and points out that a small number of erythrocytes with basophil stippling appear even in the blood of healthy persons. Discussing the origin of basophil stippling, he shows that the staining of every cellular element is dependent on its electrical charge, which is different in the nucleus, the nucleoli, the protoplasm and so on. If the hydrogen ion cencentration of the cell surroundings is altered, the electrical charges are likewise changed. A portion of the cell that formerly had an acid reaction may now become basic and vice versa. The author found that the point at which acidity changes into alkalinity, that is, the iso-electric point, is in the majority of cases the same for the basophil stippling, for polychromasia and for the reticulofilamentous formation. He concludes that this favors the common origin of these phenomena. He says that the diagnostic value of the basophil stippling is slight, because it is detected in a large number of pathologic conditions. It is comparatively frequent in the diseases of the blood, particularly pernicious anemia, in which it is found at the beginning of the stage of remission. It occurs also in certain occupational diseases and in renal disorders. The presence of basophil stippling indicates increased irritability of the bone marrow.

Abnormal Diastase Values and Blood Sugar Content.—Jorns points out that surgical treatment of diabetes mellitus by means of ligation of the pancreatic duct has proved unsuccessful. Ligation of the excretory duct of the parotid gland, which had been suggested by other investigators, produced only a temporary effect. The latter intervention had been suggested because it was assumed that the parotid produced an insulin-like substance which, following ligation of the duct and stasis of the secretion, would become absorbed in larger quantities. However, this explanation was refuted. Later it was assumed that the reduction in the blood sugar values, which became manifest after the ligation of the duct of Steno, was a result of an increased resorption of the salivary diastase. Some investigators corroborated this assumption by experiments, but more critical studies disclosed that the behavior of the blood sugar is entirely independent of the concentration of diastase in the blood. The author studied the diastase and blood sugar values in cases of parotitis and found them normal in the majority of cases. He ligated the excretory duct of the parotid gland in rabbits and during the first six or eight days after this intervention he studied the blood sugar and the diastase values. He found that the diastase values increased shortly after ligation, but that this soon subsided and the blood sugar values showed no changes. He reaches the conclusion that as yet there is no proof for an interdependence of the blood sugar and the diastase contents.

15: 185-216 (Feb. 8) 1936. Partial Index

Familial Leukemia. H. Curschmann.—p. 185.
Influence of Nicotine on Iodine and Cholesterol Content of Blood. L. H. Strauss and P. Scheer.—p. 187.
*Bactericidal Power and Antitoxic Action of Vitamin C. J. von Gagyi.—p. 190.
Significance of Serologic Examination of Tuberculosis. F. E. Haag and E. L. Schiedges.—p. 195.
Influence of Insulin on Motor Chronaxia of Rabbits. H. Reiners.—p. 199.

Influence of Nicotine on Iodine and Cholesterol Content of Blood.—Strauss and Scheer direct attention to the fact that not only smokers are exposed to the injurious effects of nicotine but also workers in tobacco factories and persons who work with parasiticides that contain nicotine solutions. In animal experiments and in clinical observations it was determined that nicotine may cause degenerative changes in the myocardium and sclerotic processes in the central and peripheral vessels. The question arises whether and to what extent the thyroid (in connection with other incretory glands) and the cholesterol metabolism are involved in changes that develop as the result of nicotine intoxication. In order to determine the thyroid involvement, the iodine content of the blood was watched and the control of the cholesterol content of the blood appeared desirable, in view of its correlation with the epinephrine metabolism and in view of the vascular disturbances that develop after nicotine intoxication. In observations on human subjects (smoking with inhalation) and on animals (injection of nicotine), two types of iodine curves could be differentiated. The first indicated an increase in the iodine content in acute nicotine intoxication; the second indicated a reduction of the iodine content in acute intoxication. The first was found chiefly in persons who smoke only occasionally, are hypersensitive to nicotine or have hyperthyroidism. The second was found in habitual smokers and in persons with hypothyroidism. In animals the curve showed an analogous behavior in acute and chronic nicotine intoxication. The curve indicating the cholesterol content of the blood was less characteristic. The thyroids of the animals with chronic nicotine intoxication showed histologic changes in the form of thyroiditis or atrophy.

Bactericidal Power and Antitoxic Action of Vitamin C.—After pointing out that in previous studies he was able to show that, in addition to an alimentary C-avitaminosis (scurvy), there is also a toxic form that develops in infectious diseases, such as diphtheria, von Gagyi reports his studies on the bactericidal and antitoxic action of vitamin C. He found that virulent, pathogenic bacteria have a high degree of sensitivity to vitamin C. If diphtheria bacilli are put in a solution of vitamin C they retain their capacity for growth up to an exposure of two hours, but if the exposure to vitamin C has lasted four hours the capacity for growth disappears. Even bacilli that have been under the influence of vitamin C for two hours have lost their virulence to a considerable extent. Whether the bacteria that have been killed by vitamin C action stimulate antibody formation has not been determined as yet. Not only are the bacteria impaired by vitamin C but the vitamin C is also impaired by the bacteria. There is a parallelism between the sensitivity to vitamin C and the impairing action on it. Diphtheria bacilli lose these two characteristics in the course of recovery. Vitamin C has a prophylactic value in that it exerts an inhibiting effect on the bacterial flora of the organism. It has a therapeutic effect, because it detoxicates and reduces the virulence. The development of a toxic C-avitaminosis in infectious diseases is due to the fact that the C factor is destroyed in the act of detoxicating and binding. The author concludes that there is theoretical justification for the administration of vitamin C in certain infections and communicable diseases, but he admits that the time and manner of the practical application have not been determined as yet.

Medizinische Klinik, Berlin

32: 141-172 (Jan. 31) 1936. Partial Index

What Practitioner Should Know About Lymphogranuloma Inguinale. H. Löhe.—p. 141.
*Diagnostic Significance of Distant Symptoms in Ulcers of Stomach and Duodenum. H. Diefenthaler.—p. 149.
Diagnosis of Open Foramen Ovale. H. Bix.—p. 150.
Treatment of Pneumonia. K. Nissen.—p. 151.

Distant Symptoms in Ulcers of Stomach and Duodenum.—Diefenthaler calls attention to the fact that Oefelein observed in patients with gastric and duodenal ulcers the presence of a unilateral dorsal reflex in response to stroking the skin in the region of from the seventh to the twelfth dermatomes. Oefelein found also that this reflex was generally missing in healthy persons and that it disappeared after the gastric or duodenal ulcer had healed. The author, in studying this reflex, made the same observations on healthy persons as did Oefelein; that is, he found the reflex missing. However, when he studied the reflex on patients with internal disorders, he discovered it in approximately half of the patients. To be sure, it was rarely unilateral but was usually elicitable by stroking both sides of the back, although it was not always equally intense on the two sides. Among the patients in whom the reflex was elicitable there were a number who had a gastro-intestinal ulcer. However, the reflex was absent in approximately one third of the patients with gastro-intestinal ulcers and it was only slight in others; it was clearly elicitable in about half of the patients with ulcer. A review of the cases without gastro-intestinal ulcers, in which the reflex was positive, and their comparison with the ulcer cases in which the reflex existed disclosed that the dorsal reflex is elicitable especially in patients in whom a hyperesthetic zone exists in the back. He thinks that the dorsal reflex has some connection with this hyperesthetic zone and points out that for this reason it has only slight value in the diagnosis of gastric and duodenal ulcers. Onodera has stated that in patients with ulcers of the stomach or the duodenum there is a point that is painful to pressure at the site of insertion of the median gluteal muscle, between the anterior superior iliac spine and the sacrum. The author found this painful point only in rare cases and concludes that its diagnostic significance is slight.

Medizinische Welt, Berlin

10: 109-144 (Jan. 25) 1936. Partial Index

*Significance of Porphyrins for Lead Intoxication. C. Carrié.—p. 109.
Mineral Metabolism of Skin. J. Dörffel.—p. 113.
Dermatoses in Anemic Patients. P. Chevallier.—p. 120.
Diseases of Testes. W. Richter.—p. 122.
Pulmonary Changes in Boeck's Sarcoid. Margarete Saacke.—p. 124.

Significance of Porphyrins in Lead Poisoning.—Carrié shows that lead poisoning is the most frequent form of the toxic porphyrias, other forms of which may be caused by the barbituric acid derivatives, by sulfur preparations and by other toxic substances. He points out that, in view of the fact that porphyria of unknown origin has the same clinical aspect as

toxic porphyria, it is necessary to search for a toxic cause, particularly lead, in all cases of porphyria. After discussing the structure of the porphyrins and their chemical relation to the blood and bile pigments, he states that Schreus classifies the porphyrias under primary forms (elimination of porphyrin I) and secondary forms (elimination of porphyrin III). The classification shows that toxic porphyria (lead poisoning) belongs to the secondary forms. Then the author discusses the demonstration of the porphyrias by means of various methods and he evaluates the diagnostic significance of the porphyrins. In this connection he points out that, although a single test may give information about the porphyrin values, repeated tests are more reliable. It has been determined also that there is a relationship between the quantitative elimination of porphyrin and the severity of the symptoms of lead intoxication. In discussing the effects of the porphyrins, the author stresses their action on the blood vessels and says that the frequently observed increase in the blood pressure as well as the oliguria can be ascribed to such vascular effects. Further attention is called to the relations between the porphyrins and the calcium metabolism and to the affinity of the excessive porphyrins for the bones. In the treatment of lead poisoning an alkaline diet is advisable and eventually alkaline substances may be administered. Calcium therapy has likewise been recommended as helpful and liver therapy in the form of the injectable extracts has proved effective.

10: 183-218 (Feb. 8) 1936. Partial Index

*Striae Distensae as Hypophyseal Symptom in Basophil Adenoma of Anterior Hypophysis (Cushing's Syndrome) and in Arachnodactylia (Marfan's Symptom Complex) with Hypophyseal Tumor. V. Schilling.—p. 183.
Differential Diagnosis of Bone Diseases of Children. E. Hässler.—p. 187.
Malaria in Northwestern Germany. P. Mühlens.—p. 190.

10: 219-254 (Feb. 15) 1936. Partial Index

*Striae Distensae as Hypophyseal Symptom in Basophil Adenoma of Anterior Hypophysis (Cushing's Syndrome) and in Arachnodactylia (Marfan's Symptom Complex) with Hypophyseal Tumor. V. Schilling.—p. 219.
Increasing of Pharmacologic Action of Medicines by Reduction of Hydrogen Ion Concentration in Organism. A. Sztankay von Hermany.—p. 222.
Disorders of Epididymis. W. Richter.—p. 223.

10: 255-290 (Feb. 22) 1936. Partial Index

Vitamins in Surgery. H. J. Lauber.—p. 255.
*Striae Distensae as Hypophyseal Symptom in Basophil Adenoma of Anterior Hypophysis (Cushing's Syndrome) and in Arachnodactylia (Marfan's Symptom Complex) with Hypophyseal Tumor. V. Schilling.—p. 259.
Fight Against Cancer and Colposcopy. F. Leip.—p. 262.
Rapid Serologic Diagnosis of Syphilis. P. Dahr.—p. 265.

Striae Distensae as Hypophyseal Symptom.—Schilling reports the clinical histories of two young men who had apparently opposite disturbances (obesity and emaciation) but both of whom had the bluish red striae distensae occasionally seen during pregnancy. The first patient, who at the age of 11 years had sustained a peculiar accident with probable fracture of the base of the skull, had the symptoms of Cushing's pituitary basophilism. The second patient presented the aspects of Marfan's symptom complex with hypophyseal tumor, designated by him as dolichostenomelia and later called arachnodactylia. The author shows that the striae distensae are a clinically important general symptom indicating the various forms of hyperfunction of the anterior lobe of the hypophysis. In Cushing's syndrome this hyperfunction concerns chiefly the basophil cells, whereas in the almost diametrically opposed Marfan type (arachnodactylia) the hyperfunction probably involves chiefly the eosinophil cells. It is possible that a slight increase in the growth hormone of the eosinophil cells, if it begins with the fetal period, results in the Marfan type; if there is a considerable increase in the growth hormone of the eosinophils during the period of growth, giant growth may be the result, and in older persons it may cause acromegaly. The Marfan type is not necessarily hereditary, but apparently it may be caused by a conditional disturbance in the formation of the hypophysis. This disturbance may later cause the development of hypophyseal tumors that act in the same manner. The excessive elimination of the luteinizing hormone in the urine of a precocious boy with the Marfan type and hypophyseal tumor indicates that this hormone is produced in other than the basophil cells of the hypophysis; but the excessive quantity of this hormone indicates also that it is of hypophyseal origin, since production in the placenta would be impossible in this case. Moreover, it corroborates the clinical supposition of a tumorous degeneration of the anterior lobe of the hypophysis, the structure of which does not seem to correspond to the basophil or eosinophil adenomas.

Monatsschrift f. Geburtshülfe u. Gynäkologie, Berlin

101: 121-248 (Jan.) 1936. Partial Index

Uterine Cysts as Special Form of Endometrioses. P. Thiessen.—p. 129.
Presence in Blood of Substances Inhibiting Fermentation. H. Mommsen and H. Glaeser.—p. 138.
*Use of Blood Transfusion in Puerperal Fever and in Sepsis After Delivery. J. Erbslöh.—p. 156.
Significance of Sensory Nerve Pressure Reflexes (According to Kehrer, Münster) in Eclampsia and Preeclampsia. H. Hoffmann.—p. 163.

Use of Blood Transfusion in Puerperal Fever.—Erbslöh reports the results obtained with blood transfusions in the treatment of seventy-five cases. Blood transfusion was resorted to in nearly all cases of puerperal sepsis except those in which the septic process had already become localized. In the latter cases the author regards blood transfusions as useless, except when a simultaneously existing secondary anemia has to be treated. Blood transfusions were dispensed with also in cases of cardiac and circulatory weakness in which there existed signs of insufficiency or in cases with stasis in the lesser circulation, particularly with extensive septic pneumonias. Other contraindications were endocarditis, extensive thrombophlebitis, severe renal disorders and hepatic metastases. In the cases in which blood transfusion was employed, it was combined with all other methods that are customarily employed in the treatment of puerperal fever. There were twenty-seven fatalities among the seventy-five cases in which blood transfusion was employed; that is, the mortality rate was 36 per cent. The author points out that this figure corresponds approximately to the results that have been obtained with the expectant conservative treatment. A number of the cases that had a fatal outcome in spite of the blood transfusion were of foudroyant sepsis, in which the defense powers of the organism were completely inadequate to check the infection. In other cases the condition was already rather desperate (beginning circulatory weakness and multiple septic metastases) and blood transfusion was a last resort. On the other hand, there were nineteen extremely grave cases among the forty-eight in which recovery occurred after blood transfusion. In the severe cases of sepsis the author gained the impression that the transfusion is of little avail in those instances in which the hemoglobin content and the number of erythrocytes are almost normal; however, it produces favorable results in the cases in which great loss of blood has produced a secondary anemia or in which the septic process has reduced the hemoglobin and erythrocyte values. In the latter cases a single transfusion is as a rule inadequate and it is advisable to control the blood picture from time to time and repeat the transfusions as often as the blood status indicates. After admitting that in spite of blood transfusion the mortality of puerperal fever or sepsis is still rather high, the author calls attention to the so-called immunotransfusion and to the transfusion of convalescents' blood. The first of these two procedures involves loss of time as well as considerable inconvenience to the donor (vaccination, chills). The second method is less complicated but it presents the problem of securing a suitable donor.

Monatsschrift für Kinderheilkunde, Berlin

64: 329-472 (Jan. 17) 1936. Partial Index

*Treatment of Empyema and Blood Transfusion. M. Schlegel.—p. 329.
Symmetrical Parietal Fenestrations. E. Hassler.—p. 337.
Peculiarities in Vascular System of Heart of Children Convalescing After Typhoid. F. D. Gurewitsch.—p. 341.
Modification of Blood Sugar Curve by Single Fat Tolerance Test. H. Knauer.—p. 356.

Treatment of Empyema and Blood Transfusion.—Schlegel stresses that experience has shown that the more conservative methods produce better results in empyema of nurslings and small children. He says that at his clinic punc-

tures are being postponed as long as possible, generally as long as there are still inflammatory processes in the lungs. The first aim of the treatment should be to strengthen the child's organism in its defense against the micro-organisms. In fourteen of thirty cases it proved possible to obtain retrogression of the empyema by rest, application of heat, proper feeding and blood transfusions. In ten children one or several punctures were made, either because the general condition indicated it or because symptoms of displacement appeared. A drain was introduced in six cases in which the empyema rapidly filled again. The author stresses the great value of blood transfusions in children with empyema. He says that this measure not only has a favorable effect on the local symptoms but also improves the general condition to such an extent that conservative measures are often adequate in counteracting the empyema. He deplores that the method was not satisfactory in nurslings, as four of the six fatalities from empyema concerned nurslings weighing less than 4,600 Gm. In describing the method of blood transfusion, he says that he employs donors of the same blood group. For technical reasons he uses citrated blood. He gives a preliminary injection of 5 or 10 cc. and five or six hours later performs the main transfusion, in the course of which he transfuses from 15 to 20 cc. for each kilogram of body weight.

Wiener klinische Wochenschrift, Vienna

49: 129-160 (Jan. 31) 1936. Partial Index

*Behavior of Homologous Arteries and Its Significance for Localization of Disease. R. Wiesner.—p. 129.
Cerebral Myxedema. E. Risak.—p. 133.
First Aid in Sudden Life Threatening Conditions of Nontraumatic Origin. L. Petschacher.—p. 135.
Organotherapeutic Experiments with Aid of Extracts of Pineal Body, Especially in Sexual Hyperexcitability. R. Hofstätter.—p. 136.
Some Peculiarities of Thinking in Patients with Aphasia. M. S. Lebedinsky.—p. 137.
*Oliguria Resulting from Retention of Sodium Chloride. E. Lauda and O. Wichtl.—p. 141.

Homologous Arteries and Localization of Disease.—Wiesner selected the brachial artery for his comparative studies on homologous arteries. A factor that induced him to select this region was the statement of a dermatologist that freezing of the left hand is observed more often than of the right hand. Since there is a connection between the effect of cold and the blood supply, the author decided to investigate whether anything could be found in the vascular apparatus that would explain this. He states that homologous vascular regions of the brachial arteries in the same person show in the majority of cases different widths of the lumens and different wall thicknesses. This asymmetry of the vessels is usually the result of an increase in the size of the right brachial artery. There are histologic changes that correspond to the differences in size in the arteries of the two sides. During the first months of life the difference in the right and left brachial arteries is not yet apparent; however, it begins to appear during early childhood. The fact that the right brachial artery is wider and thicker makes it appear likely that the change has some connection with right-handedness. It might be a process of adaptation, for the greater activity of the right hand and arm requires a greater blood perfusion of the tissues. From this point of view it appears that the morphologic changes are the manifestation or result of the changed functional activity. The author stresses that the brachial artery is only one example and that similar conditions may be found in other regions. He was induced to study the brachial artery because freezing of the left hand is more frequent than freezing of the right. He suggests that this might be due to the fact that in the narrower vessel the vascular tonus is greater than in the wider vessel and that, if as the result of the cold the tonus is further increased, the blood stream encounters greater resistance in the left brachial artery. However, it is also possible that the wider vessel has a neuromuscular apparatus that functions better in response to the stimulus of cold and thus effects a better blood perfusion under the changed conditions.

Oliguria Resulting from Sodium Chloride Retention.—Lauda and Wichtl describe two cases of oliguria caused by the retention of sodium chloride. In one case the condition was rather mild in that, after a certain degree of retention had been reached, the sodium chloride was eliminated and the formation of edema was thus prevented. In the other patient, however, the condition was grave in that the retention of sodium chloride resulted in anasarca. In the second case the true nature of the disorder had not been recognized. The severe pains in the renal region, of which the rather neuropathic patient complained, had led to two decapsulations and finally to the extirpation of a normal kidney. In view of the latter case the authors discuss the classification of oligurias. They stress that thus far there is proof only for a primary oliguria caused by primary oligodipsia and for oliguria resulting from the retention of sodium chloride, whereas there are no proofs for the existence of a constitutional renal oliguria or for an oliguria caused by primary retention of water in the tissues.

Zentralblatt für Gynäkologie, Leipzig

60: 305-368 (Feb. 8) 1936

*Radium Treatment of Cervical Carcinoma with Exteriorization of Small Pelvis. F. Daels.—p. 306.
Histologic Proofs for Results of Irradiation with Exteriorization of Small Pelvis in Cervical Carcinoma. G. van Damme.—p. 310.
Primary Mortality in Ray Treatment of Uterine Cancer. M. Matoušek.—p. 318.
Primary Carcinoma of Uterine Cervix and Later Primary Carcinoma of Mamma. R. Cordua.—p. 322.
Metastasis of Chorionepithelioma in Brain with Negative Hormone Reaction. O. Hajek and A. Bareuther.—p. 322.
*Cobra Toxin as Analgesic in Gynecologic Carcinomas. J. Nekula.—p. 328.

Radium Treatment with Exteriorization in Cervical Carcinoma.—The difficulties that are encountered in the course of radium treatment of tumors in the small pelvis induced Daels to resort to the exteriorization of the small pelvis. To do this, he makes a transverse incision into the abdominal wall, 1 cm. above the pubic symphysis and above Poupart's ligament, then ligates the epigastric vessels, sutures the lower edge of the peritoneum to the skin above the symphysis and the inguinal canal, severs the peritoneum of the posterior half of the pelvic inlet up to the pelvic mesocolon, sutures the upper edge of this line of incision to the parietal peritoneum of the anterior abdominal wall, sutures the lower edge to the skin and thus forms a new diaphragm at the level of the promontory. He found it advisable to wait from three to five days after the exteriorization before beginning the radium treatment. Then the radium tubes can be introduced without difficulty to the right and left of Douglas' pouch and to the right and left of the vesico-uterine fold. In the beginning the author alternated between periods of treatment and periods without treatment (four or five days in length), but later he found that the treatment could be continued uninterruptedly for from ten to eighteen days. He stresses as the advantages of the method the possibility of uniform irradiation of the small pelvis, the prevention of injuries to the connective tissue, the possibility of prolonged, weak irradiations, the absence of retention of infected secretions from the cancerous focus, which frequently occurs in the case of intra-uterine or intravaginal irradiation, and, finally, the possibility of careful control.

Cobra Toxin as Analgesic in Gynecologic Carcinomas.—Nekula tested the analgesic action of cobra toxin in ten patients with genital carcinoma. He says that the cause of the analgesic action of cobra toxin is not definitely known as yet but that it is probably the result of a paralytic effect on the sensory nerves. The toxin of the Indian cobra (cobra-de-capello) is used for analgesic purposes because it contains the most neurotoxins and the least hemolysins of any snake venom. The author obtained a reduction of pain in all ten cases in which he employed the cobra toxin, and in two cases he was able to suppress the pains completely. He injected the toxin subcutaneously in the region of the deltoid muscle. For the cutaneous disinfection, alcohol was used (never tincture of iodine), and it is stressed that the simultaneous internal medication with iodine is likewise inadvisable. With regard to the dosage he says that the best results were obtained when small doses (about 10 mouse units) were administered every second day. In this manner it was possible to avoid the general reactions in the form of gastro-intestinal disturbances, and the reduc-

tion in pain was continuous. This was not possible when the injections were given at intervals of three or four days. The author administered the cobra toxin always after radium or roentgen treatment, never simultaneously with it. He points out that cobra toxin is now also used for the therapy of cancer and mentions some of the investigators in this field. He admits that he himself never observed an objective improvement of the local gynecologic condition. Nevertheless he thinks that in the future snake venoms might be of greater importance in their direct action on cancer tissues than in their analgesic action.

Sovetskaya Khirurgiya, Moscow

Pp. 1-184 (No. 8) 1935. Partial Index

Results of Oscillometry in Endarteritis Obliterans. N. N. Kukin.—p. 25.
Sliding Hernias of Cecum and Hernial Appendicitis. I. S. Vengerovski.—p. 42.
*Artificial Gastric Juice in Primary Closure of Compound Fractures. V. R. Vanovskiy.—p. 50.
Donor Problem and "Refuse" Blood. M. A. Dershavetz.—p. 58.
Value of Roentgen Studies in Diagnosis of Perforations of Gastro-Intestinal Tract. A. J. Ivanova.—p. 65.

Use of Artificial Gastric Juice in Compound Fractures.—Vanovskiy states that débridement and primary closure of lacerated traumatic lesions is permissible in the first six hours only. After this period, in order to be efficacious, the treatment must be combined with the use of antiseptics. In 1930 Yaure and Busurina reported experiments in which they demonstrated the markedly bactericidal action of artificial gastric juice against a number of pathogenic bacteria in vitro. They showed that the bactericidal action of the artificial gastric juice depended on the combined action of its components hydrochloric acid and pepsin and not primarily on the concentration of the hydrochloric acid. Besides the bactericidal action, the juice aids in the autolysis and sloughing of the devitalized tissues. The author treated thirty patients having compound fracture of the bones by débridement of the wound, irrigation of the wound with artificial gastric juice and primary suture of the skin. Of the thirty injuries, fifteen were fractures of the tibia, four of the femur, five of the forearm, four of the humerus and one of a phalanx; the remaining injury was a compound dislocation of the hip. More than half of the patients were treated from twelve to twenty-four hours after the injury. Twenty-six were healed by primary intention and four developed an infection. The author concludes that the use of the artificial gastric juice will permit of extending the indications for the primary closure of lacerated wounds. The artificial gastric juice was prepared according to the following formula: diluted hydrochloric acid 18 parts, pepsin 20, distilled water 1,000, glycerin 5.

Hospitalstidende, Copenhagen

79: 85-112 (Jan. 28) 1936

*Anemia in Cancer of Stomach. E. Mogensen.—p. 85.
Treatment of Varices with Injection of Larger Amounts of Highly Concentrated Sugar Solution and Ligature of Vein. F. Søegaard.—p. 99.
Glycolytic Enzymes in Spinal Fluid. A. Faurbye.—p. 110.

Anemia in Cancer of Stomach.—Mogensen states that in seventy-five cases of gastric cancer the average percentage of hemoglobin was 72.8. In 31 per cent of the cases there was no anemia and he concludes that the presence of a normal percentage of hemoglobin is without significance in the diagnosis of cancer of the stomach. No connection existed between achylia and tendency to anemia or between the degree of occult hemorrhage and anemia, and the anemia was independent of age, sex and duration of the disease. Undernutrition and cessation of the antianemic function of the stomach are regarded as the main causes of the anemia. Two cases of cancer of the stomach with marked anemia as the chief symptom are described, one with a hypochromatic and microcytic anemia which responded favorably to treatment with iron, the other with a hyperchromatic megalocytic anemia which reacted well to treatment with liver and stomach. The importance is stressed of active treatment of the anemia in cancer of the stomach by (1) the best possible nutrition, both quantitatively and qualitatively, and (2) direct antianemic treatment with iron or with liver and somach or both, the choice being based on the hematologic picture.

Norsk Magasin for Lægevidenskapen, Oslo

97: 113-232 (Feb.) 1936

*Relations of Metabolism in Lipoidosis: Review and Casuistic Report. G. Ræder.—p. 113.
Method of Analysis in Determination of Cholesterol in Serum, Bile and Feces. E. J. Øy.—p. 144.
Traumatic Psychoses. E. Rian.—p. 146.
Remarks on Reflex Anuria in Connection with Case of Anuria. W. Otnes.—p. 164.
Treatment of Condylar Y Fractures. W. Otnes.—p. 169.
*Still's Disease. M. Hajkis.—p. 173.
*Acute Pancreatic Necrosis: Three Rare Cases. R. Grønn.—p. 181.
Course of Pulmonary Tuberculosis in Children. L. Salomonsen and H. Trætteberg.—p. 194.

Metabolism in Lipoidosis.—A woman, aged 31, had multiple xanthomas on the fingers, elbows and one heel. Examination of her family revealed hereditary hypercholesterolemia, apparently handed down by both sexes as a dominant factor and expressed in part by xanthoma formation, in part only by chemically demonstrable changes in the blood. The total cholesterol and fat in the patient's blood were increased to about 250 per cent, the phosphatide to from 150 to 200 per cent. Chemical examination of one xanthoma showed 24.9 per cent of cholesterol, 20.4 of fat and 0.26 of acid phosphatide phosphorus in the dry substance. The tolerance test with cholesterol caused only a weak rise in cholesterol values. An attempt to withhold cholesterol caused no noticeable change in the cholesterol values in the blood. The amount of cholesterol in the bile and the feces was normal. Ræder concludes that the condition in his case is due not to a defect in elimination but to an unexplained defect in regulation. He says that, while there are several forms of disturbances in metabolism which may lead to xanthoma formation, this case belongs to a relatively well recognized type, a familial juvenile form. Many patients with the disorder die suddenly with the picture of heart disease, and lipoid deposits are found in the heart. A therapy to lower the lipoid level in the blood is thus called for. Roentgen irradiation of the hypophysis region proved ineffective in the case described. At present the only treatment available is treatment with a cholesterol-free diet.

Still's Disease.—Hajkis says that in 1929 slowly increasing rigidity and swelling in the articulations of the extremities and rigidity of the spinal column, especially in the cervical portion, began in a girl, aged 14. From 1930 through 1932 several periods of intermittent fever occurred, lasting from two to six weeks, with enlargement of the spleen and lymphatic glands, periosteal nodes in the wrists and elbows, kneecaps and ankles and in the middle of the forehead, pronounced muscular atrophy and a poor general condition. Physical development was greatly retarded; psychic development was about normal. The skin was gray and pale, with yellowish brown pigmentation on the cheeks. There was onychogryposis of the nails of both big toes. Menstruation had not begun. Roentgen examination showed marked deficiency in calcification in the knee and wrist joints. Sixteen injections of fibrolysin were without effect on the condition. Since 1932 there has been no marked fever period and the condition seems about stationary. The clinical picture is thought to conform with that in Still's disease beginning in the first decade of life.

Acute Pancreatic Necrosis.—Grønn says that his first case of traumatic isolated pancreatic lesion was the only one of its kind in 6,754 necropsies, and that only five instances of traumatic pancreatic necrosis have been reported previously in Norway. The trauma is believed to have caused a primary crushing of the pancreatic tissue or pancreatic hemorrhages causing partial necrosis, in either event leading to activation of trypsinogen into trypsin and to a weakening of the pancreatic tissue, resulting in autodigestion of the pancreas. In the second case, hemophilia, spontaneous hemorrhage in the pancreas activated the pancreatic enzymes and produced an acute hemorrhagic pancreatic necrosis developed after high strangulation of the afferent loop of the jejunum following resection of the stomach. The contents of the distended duodenum were forced into the pancreas through the pancreatic duct and activated the trypsinogen, with resulting autodigestion of the pancreas. The cause of death was autointoxication, mainly attributable to the high ileus but in part due also to the secondary pancreatic necrosis.